DOCUMENT RESUME

ED 117 158 TM 005 012

TITLE	Problems in the Evaluation of Pre-School Education.
INSTITUTION	Council of Europe, Strasbourg (France). Documentation Center for Education in Europe.
PUB DATE	75
NOTE	218p.
EDRS PRICE	MF-$0.76 HC-$10.78 Plus Postage
DESCRIPTORS	*Comparative Education; Curriculum Evaluation; Educational Innovation; Evaluation Methods; Evaluation Needs; Formative Evaluation; *National Surveys; *Preschool Education; *Preschool Evaluation; Program Evaluation; Research Problems
IDENTIFIERS	Belgium; France; Germany; Netherlands; Scandanavia; Switzerland; United Kingdom

ABSTRACT

Examined were the purposes and problems, as well as the present status and trends, of pre-school educational evaluation in seven European countries; Belgium, France, Germany (Federal Republic), Netherlands, Scandanavia, Switzerland, and the United Kingdom. These analysis required that national surveys be written which would first give brief background information on existing provisions of pre-school education, underlying educational philosophies, and important sociological and historical factors. A description and discussion of different evaluation purposes and procedures, with special attention to new methods, were judged desirable. Major attention would be devoted to a review of evaluation studies, both those evaluating general pre-school curricula and those assessing more specific programs, and taking into consideration process evaluation as well as short- and long-term effects. An attempt to judge strengths and weaknesses of current studies and to identify the main problems of evaluation research would be made. Possible guidelines for future evaluations were to be included. The national surveys generally followed this outline and were followed by a chapter in which the main trends reflected in the survey were summarized. Appended were special studies concerning the use of tests in evaluating pre-school educational programs, historical, social and cultural influences on pre-school evaluation, language programs, the evaluation of learning difficulties, the role of an evaluator, and an action research evaluation. (Author/BJG)

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PROBLEMS IN THE EVALUATION OF PRE-SCHOOL EDUCATION

REPORT OF A WORKING PARTY OF THE COMMITTEE FOR EDUCATIONAL RESEARCH

TM 005 012

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DOCUMENTATION CENTRE FOR EDUCATION IN EUROPE

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INTRODUCTION

K-G. Stukát, Chairman

In recent years there has been a notable increase in interest in early childhood education in most European countries. Various factors, material as well as ideological, which will be discussed in the following chapters, account for this increased activity in the pre-school field. The current tendency to regard pre-school as an educaltional priority area can be observed at the national level and is also evident in various initiatives in the field of international co-operation.

The present report has been realized under the auspices of the Council of Europe and is part of a comprehensive action programme related to current pre-school issues. Within the framework of this programme a series of symposia has been arranged in the last few years (Venice, Jyväskylä, Leyden and Ghent) which have later been followed up by workshops for further elaboration of the problems. Also linked to our report is a recent research survey, "Current trends in European pre-school research with particular regard to compensatory education". The project reported here forms part of the Council of Europe's Intensified Co-operation Programme in the field of pre-school education.

The group mainly responsible for this publication is a working party set up by the Committee for Educational Research. Its eight members were chosen by the Chairman among European researchers active in the field of pre-school evaluation. At its first meeting in April 1974 the working party discussed the objective of its activities. The topic to be treated was originally defined as "a common catalogue of evaluation variables in pre-school experiments". After careful consideration the group came to the conclusion that the task of developing a set of common evaluation variables for pre-school experiments should be preceded by a thorough analysis of the purposes and problems as well as of the present status and trends with regard to pre-school education evaluation.

In order to provide a concrete basis for such an analysis, it was decided that the members of the working party should write national surveys of current evaluation research in their own countries. Following the model of a survey presented at the meeting by Mr. Chazan, it was agreed that the surveys should first give brief background information on existing provision of pre-school education, underlying educational philosophy, and important sociological and historical factors. A decription and discussion of different evaluation purposes and procedures, with special attention to new methods, were also judged desirable. The major part of the paper should be devoted to a review of evaluation studies, both those evaluating general pre-school curricula and those assessing more specific programmes, and taking into consideration process evaluations as well as short- and long-term effects. The survey was to attempt to judge strengths and weaknesses of current studies and to identify the main problems of evaluation research. Furthermore, each author was to consider possible guidelines for future evaluations to be included in the working party's common suggestions.

This general outline has on the whole been followed in the papers which are presented in the present volume. Where deviations from the pattern exist they are in full agreement with the working party's decision that the authors should feel free to modify their texts, if they judged it to be desirable. It was decided that the national surveys should be followed by a chapter in which the main trends reflected in the surveys was summarized.

The second meeting was arranged as a workshop with an extended group of pre-school researchers. At this workshop, which took place in September 1974, five researchers in addition to the working party members participated. Preliminary versions of the national surveys and of the trend report mentioned above served as a basis for the initial discussions. The workshop activities were also stimulated by a number of papers prepared and presented by members of the working party. The topics of these papers, which are reproduced in the report as an appendix, referred to current issues of evaluation which were felt to be of particular importance and with which the authors had first-hand experience.

Discussions were directed towards establishing a set of guidelines for evaluation. At the end of the workshop the group concluded that an attempt to formulate detailed evaluation guidelines would serve no useful purpose, considering the complexity and variety of evaluation problems and the dynamic development in the field. It was, however, judged both possible and worthwhile to formulate a number of recommendations or, rather, suggestions, based upon the analyses in the national surveys and on the discussions of the special topics. The suggestions of the workshop are presented in the concluding chapter. They should not be regarded as an authoritative statement on how evaluation should be done, only as an expression of common experiences and conclusions among a group of pre-school researchers.

At its third and final meeting in March 1975 the working party discussed the revised versions of the national surveys, the summary of trends, the suggestions of the workshop and the special papers. The group also considered desirable future international initiatives related to evaluation in early childhood education. Among the activities which were judged particularly worthwhile to pursue, the following were emphasized:

- the evaluation of family day-care schemes;
- the early detection of handicaps/skills among young children and evaluation of remedial programmes;
- the preparation of tests that could be used in several countries (for example, in the areas of language development and the acquisition of social skills).

There was general agreement among the members that the combination of working party and workshop has been a fruitful model for the co-operative efforts. To this I would like to add my personal conviction that the professional contributions presented in this volume serve a very useful purpose. Although the many intricate problems of pre-school evaluation need a good deal more analysis, the papers presented here no doubt represent an important step towards their clarification and solution.

Finally, on behalf of the working party I want to acknowledge the valuable administrative and technical assistance which has been provided by the Council of Europe Secretariat.

*

Below are presented brief biographical notes about the members of the working party, including the participants in the workshop.

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NATIONAL SURVEYS

Belgium

France

Germany, Federal Republic

Netherlands

Scandinavia

Switzerland

United Kingdom

EVALUATION OF PRE-COMPULSORY EDUCATION: RESEARCH IN BELGIUM

Anne-Marie Thirion

INTRODUCTION

Belgium illustrates particularly well the two present main tendencies in pre-compulsory education, namely higher numbers and attendance at an increasingly early age. At the same time, administrative and teaching responsibilities are highly centralised.

Considering these general features, it is hardly possible in respect of the three- to six-year-old child population to carry out comparative studies of the more or less long-term effects of kindergarten (école maternelle) (owing to the absence of a control group of children not attending school) or of various other educational systems.

Whereas it is considered normal and desirable for every child to attend kindergarten, opinion is not unanimous on attendance by children less than three years of age. Some studies have been carried out in an initial attempt to make problems connected with very small children a subject of research rather than of mere argument.

The changes at present taking place in pre-school education are the product of a twofold influence:

- an internal influence, due to the movement for the reform of the whole school system. Having begun in the secondary school, it is now beginning to affect pre-school education. The concern for assessment is apparent in the first document published by the Ministry of Education but the spirit of reform is clearer than the means to be employed. Since 1971 some research has been done in the universities at the request of the administrative authorities.

- an external influence, due to the compensatory education movement which has taken shape since 1969 in a national inter-university project. The aim is to determine the influence of socio-cultural factors on the development of children from 0-7 years and to set up a system to provide the best possible education at that age. This project comprises experimental programmes using a variety of approaches and techniques which will throw light on present problems of assessment at pre-school level.

DESCRIPTION AND EXTENSION OF EXISTING INSTITUTIONS

Two groups of bodies and institutions, which until recently corresponded to two specific age-groups, are responsible for the protection and education of young children (see Table I).

Institutions concerned with children from birth to three years come under the Ministry of Public Health and Family Affairs, through the National Child Welfare Service (Oeuvre Nationale de l'Enfance - ONE). Among its activities are the supervision of institutions and the granting of subsidies to day nurseries and homes for children from birth to three years and to certain pre-nursery schools for children from 18 months to 3 years.

As there are not nearly enough day nurseries to satisfy the demand, particularly from working mothers in urban areas, pre-nursery sections have been added to nursery schools by public authorities or private bodies.

The kindergarten (école maternelle) is in Belgium the only type of institution which takes children from two years and six months to six years, (when compulsory schooling begins; the government would like to lower this in the near future to five years).

The statistics supplied by the Ministry of Education and Culture show a continuous rise in attendance at kindergarten and increasingly early attendance (see Tables II, III and IV). Belgium is experiencing several years in advance a situation which is spreading to all industrialized countries.

TABLE I: Description of establishment for children from 0-6 years

Nursery school (Ecole maternelle)

Organizing authority:

	Flanders	Wallonia
Municipality:	14,76%	51,87%
Free:	71,56%	37,31%
State:	14,76%	10,63%
Province:	0,05%	0,19%

Legislation:

Ministry of Education and Culture, Department of Primary Education

Financing:

Subsidies for salaries
Subsidies for running costs

Supervision:

Specialized educational inspection

Extent:

	Number	Schools	Classes
Flanders:	267,561 (60%)	2,690	10,387
Wallonia:	176,311 (40%)	2,785	6,352
Total:	443,872	5,475	17,239

Location:

Generally attached to a primary school

Conditions of admission (age, social conditions):

From 2,6 years to 6 years (beginning of compulsory schooling)
Free, open to all

Organization and structure:

Grouped in classes according to age
Average number: 26 children per class

Time allocation for the children:

From 7,30 am - 6 pm
5 hours of "school"(in all cases) plus meals, child-minding arrangements, socio-cultural activities (in certain cases)

Staff (duties):

Nursery school teacher (26 hours per week)
+personnel for connected activities

Training:

Pre-school teacher training school
Two years of further education (non-university)

Ancillary services:

General school medical inspections
Possibility of consulting psycho-medico-social centres, guidance centres

TABLE I: Description of establishments for children from 0-6 years (continued)

Pre-nursery classes (Prégardienne)

Organizing authority:

Municipality:	58.5%
Free private:	35.2%
Non-religious private:	1.9%
Other:	4.4%

Legislation:

Ministry of Public Health and Ministry of Education and Flemish-speaking Culture

Financing:

Subsidies (ONE)

Supervision:

Inspection by ONE

Extent:

1971 204 8038 children
1972 230 9689 children

Location:

Generally an integral part of the local district

Conditions of admission (age, social conditions):

From 18 months
Free, or parents pay in proportion to income
Priority to mothers unable to look after their children

Organization and structure:

Age-group: 18 months - 36 months
2 or 3 nursery school teachers for 20 children

Time allocation for the children:

From 7 am - 7 pm
School plus meals, child-minding arrangements

Staff (duties):

Kindergarten teacher and/or infant welfare nurse (40 hours per week)

Ancillary services:

Regular medical supervision (monthly)

TABLE I: Description of establishments for children from 0-6 years (continued)

Day nursery (Crèche)

Organizing authority:

Municipality:	50%
Free private:	35%
Non-religious private:	12%
Other:	3%

Legislation:

Ministry of Public Health and Family Affairs via National Child Welfare Service (ONE)

Financing:

Subsidies (ONE)

Supervision:

Inspection by ONE

Extent:

1971	90	8,334 children
1972	119	10,773 children

Location:

Separate building

Conditions of admission: (age, social conditions)

From 0 - 3 years
Parents pay in proportion to income
Priority to mothers unable to look after their children

Organization and structure:

One nursery school teacher for 5 children from 0 - 8 months
One nursery school teacher for 8 children from 8 - 18 months
One nursery school teacher for 10 children from 18 - 36 months

Time allocation for the children:

From 7 am - 7 pm

Staff (duties):

Infant welfare nurse (40 hours per week)
Nursery school teacher
+ Nurse (48 beds)
Social welfare worker (96 beds)

Training:

Secondary vocational or technical school (para-medical)

Ancillary services:

Medical supervision (doctor attached to the day nursery)

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TABLE II: Growth of percentage of child population from 3-6 years attending kindergarten (école maternelle)

School year	Percentage of child population from 3-6 years attending kindergarten
1849-1850	8.6%
1900-1901	49 %
1930-1931	62.3%
1938-1939	69.4%
1953-1954	80 %
1960-1961	90.1%
1965-1966	93.3%
1970-1971	95 %

TABLE III: Growth of percentage of child population attending kindergarten from 1960 to 1970, by age-group

Age	1960	1965	1970
3	81 %	86 %	90 %
4	93 %	95 %	95 %
5	99 %	99 %	100 %

TABLE IV: Attendance in 1972-73, by age-group (national statistics)

Age	2 - 2 1/2 years A	2 1/2 - 3 years B	2 - 3 years Tot. A+B	3 years	4 years	5 years	6 years	Total
Numbers	9,817	18,647	28,484	131,247	139,207	143,055	1,899	443,872
%	2.21	4.20	6.41	29.57	31.36	32.23	0.43	100 %

The statistics of the Ministries of Education which do not include pre-nursery classes (prégardiennats), show that a considerable number of children enter kindergarten before the legal age of 2 1/2 years.

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SOCIOLOGICAL AND POLITICAL FACTORS IN PRE-COMPULSORY SCHOOLING

To explain the considerable spread of pre-compulsory schooling, sociologists refer to two main types of fact. "Alongside factors connected with trends in the division of labour, qualifications and links between vocational training and schooling we have to take into account a growing tendency among all social classes to place value on education in general" (P. Perrenoud, 1973).

Economic and cultural conditions give rise to two types of demand - a demand for child-minding tied "on the one hand to the extension of employment of women and urbanization, on the other to changes (largely dependent on the foregoing) in the organization of family life" and a demand for education in line with "the definition of the child in early infancy as an object of education" and of early infancy as a period of learning (J. C. Chamboredon, 1973).

In order to discern the causes of the demand for child-minding and education it would be interesting to have statistics on the growth of female employment by age, nationality (immigrants), dependants (number and age of children), occupational sector, child-minding arrangements adopted and the motives behind them. The data could be related to economic and demographic factors according to region (for example the economic decline and the drop in the birth-rate in Wallonia). In the absence of such data there is a great danger of falling into naive sociology.

School attendance by children from three to six years is increasing at a considerably faster rate than female employment, which rose from 36% in 1960 to 40% in 1970. This shows in rough and ready fashion that kindergarten attendance cannot be put down to a demand for child-minding, a demand which in any case is only partially satisfied.

A survey of the kindergarten population in the town of Liège shows the correlation between a poor socio-cultural milieu, pre-nursery class attendance, very early entry to kindergarten (all sections of the population being represented by the age of 3) and, above all, the use of canteens and child-minding facilities (M. Pichault, 1972). Children of less than 30 months who cannot attend pre-nursery classes, of which there are not enough, find their way into kindergarten (see Table IV). Thus the children who require most attention are accepted in the worst conditions. It can be said that "the segregation against which the schools are up in arms has taken effect before they are legally able to admit the children" (Y. Jaumain, 1974).

These findings show that "different combinations of demands for child-minding and education, which vary according to social position, can produce different models for the use of the kindergarten, despite apparently identical attendance rates and entrance ages" (J. C. Chamboredon, 1973).

In the view of B. Trouillet (1970), kindergarten attendance depends more on traditions and on the location of the building than on rates of female employment. It is true that the Belgian education system is characterised essentially by a supply that has anticipated demand. "When pre-compulsory schooling supply corresponds very closely to demand or even anticipates it, the concern to fulfil the expectations of families is coupled, as in the case of post-compulsory schooling, with objectives which form part of educational policy and only take on a meaning in relation to the whole educational system or to vaster social systems" (P. Perrenoud, 1973).

In Belgium the attendance percentage, which is exceptionally high at both the pre-compulsory and the post-compulsory stages (1), might be interpreted as a political design to democratize education. It is a necessary but insufficient pre-condition of such democratization (P. Perrenoud, 1974).

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(1) Belgium is, with Sweden, the European country where the highest percentage of pupils complete secondary education.

Let us simply say here that the kindergarten has always been an integral part of the school system as a whole and a feature of educational planning and policy. Administratively attached to the primary school and generally located in the same buildings, it is, like the primary school, free and open to all. The most recent developments have been connected with the creation of a special team of inspectors for pre-school education, the drawing up of more detailed curricular and a longer period of teacher-training, henceforth part of higher education of the non-university type.

Over the last decade or so the policy generally adopted by the organizing authorities has been to open small schools in each town district or village, so that the child has only a very short way to do. This policy is possible thanks to the population density and is considerably facilitated by competition between private and state education. The present demographic situation (falling birth-rate), the present economic and political context (rationalization, regionalization, pluralism) might influence school structures and organization in the more or less long term.

Generally speaking, Belgian pre-school education is at present characterized by vertical extension, increasing school attendance, closely bound up with the professionalization of educational activities and the delegation of parents' educative functions. Thus the age limits - from 18 months to 7 years - referred to in the basic document on the reform of pre-school education lie outside the present legal limits - from 2 1/2 years to 6 years - and reveal the intention to ensure continuity with previous and subsequent stages in development.

A general situation of this kind is unfavourable to reform, particularly to the reform of institutions. Some attempts (mini-crèches, non-stop kindergarten, "tiny-tots" centres) are evidence of the desire to ensure unity and continuity in initial education. They represent the first steps towards horizontal extension which presupposes co-ordination of the existing services, particularly effective co-operation between the Ministries of Public Health and of Education and Culture and a closer relationship between school, family and community. This type of extension would ultimately require a different health and education policy.

BASIC DOCTRINE OF PRE-PRIMARY EDUCATION (official text)

Early infancy

Concentrating its activity from the outset on the protection of mother and child and on health and medical care, the ONE is constantly adapting to current social problems (for instance - specific and intensive action on behalf of the relatives and children of immigrants). It also endeavours to keep abreast of changes in the social definition of the child, "which is progressively confining the term 'baby' to the very earliest months, as a subject of physiological and emotional care, and making early infancy, as a period which calls also for cultural and psychological care, start much earlier" (Chamboredon, 1973). In fact, the two conceptions can be contradictory and so complicate policy decisions (1).

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(1) Thus the reallocation of large financial reserves by the National Office for Family Allowance for Salaried Workers (ONAFTS) gave rise to bitter controversy between supporters of a socio-educational allowance for the mother devoting her time to bringing up her children and the supporters of investment in collective facilities and services. By royal decree of 24 September 1974, four-fifths of the fund will be allocated to the setting up of primary facilities and the extension and improvement of institutions. Among conditions for the granting of subsidies are priority of access to the children of workers and opening times compatible with the working week.

Parallel to the irreversible movement for the creation of facilities and collective amenities, the concepts of prevention and "guidance for all" are developing, together with the need to arouse in all educators and in the public special interest in the "child phenomenon and the development phenomenon" (Queen Fabiola National Foundation for Mental Health, 1971 and 1972). Legislation on day nurseries is placing increasing emphasis on their educational role. In fact since 1970 ONE subsidies have no longer been granted on a basis of the number of children but on that of staff qualifications.

It is therefore important to train the educators concerned more thoroughly, to work out and arrange the best conditions for the balanced development of the child on the basis of a better knowledge of its development and learning capacity. Several research projects are leading in this direction (see list).

The reform of the kindergarten

We are justified in saying that (at least as far as intentions are concerned) "for a long time our kindergartens have ceased to be child-minding centres and have developed a purposeful and well-thought-out educational action" (1). The initial theoretical model defined in the official texts show remarkable continuity, from the 1890 programme which already insisted on the need to develop the child's spontaneous and free activity, to the document which presents current reform intentions.

The basic document, prepared by a multi-disciplinary commission, sets out to be at once a synthesis, a stocktaking, a presentation of options and a preparation for action (Y. Jaumain, 1974).

1. It sums up what is known of the psycho-motor, socio-emotional, cognitive and linguistic development of the child, and states the level of attainment characteristic of each age. Side by side with these yardsticks of development, it describes the most favourable educational conditions for each of the main stages: 18 months - 30 months; 2 1/2 - 4 years; 4 - 5 years; 5 - 7 years.

2. After reviewing the existing tendencies in pre-school education it suggests a choice based on an interactionist and constructivist view of development. "The general aims of pre-school education are the same as those of any education system - to enable the child to explore and master his environment and, while shaping it, to shape his own personality" (page 13). In particular the kindergarten must promote the child's physical and mental health and make a maximum call on individual aptitudes or prepare the way for doing so. The document rejects the non-directive method as "anti-democratic", but it rejects dirigisme just as firmly and comes down in favour of an educational approach adapted constantly to the situation and to the problems of each child. The education recommended is both personalized and interventionist. In particular, for children from the working classes, "school is not a complementary environment - it is a seed-bed; it may be the ground offering the last 'real chance'" (page 14).

3. It serves as a general introduction to and basis for various activities in the sphere of language, psycho-motor education, education in rhythm and music and mathematical activities; other reforms in course of preparation explore the possibility of providing an introduction to technology and science.

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(1) Preface by the Minister of Education to the introductory booklet on the reform of pre-school education: L'accueil et l'éducation des enfants de 18 mois à 7 ans (The admission and education of children from 18 months - 7 years) (Ministry of Education and French-language Culture, Brussels, 1974).

By putting the emphasis on active interplay between the child and his environment the basic document on reform still takes its lead from Piaget, but more especially from Decroly, who has had a profound influence on education in Belgium. At the same time the interventionist, operationalist and intellectualist lines of action proposed reflect present-day currents of thought: new definition of the child's "occupation", accompanied by the "artful simplicity of learning processes and their rationalisation" (J. P. Chamboredon, 1973), a real concern to democratize and the influence of educational research and technology.

Pre-primary education is situated in the overall context of educational reform whose main lines have been decribed by P. Vanbergen (1972):

- to favour the democratization of learning (prevention of failure at school, compensation for socio-cultural handicaps);
- to present curricula as a set of educational objectives together with descriptions of desired behaviour; a chapter entitled "behavioural maturity" illustrates this in existing documents on pre-school education;
- to keep permanent contact with the natural and human environment;
- to conceive of education as guidance; "the kindergarten teacher fosters relations between the partners in the educational team, her colleagues and the members of the psycho-medico-social centre to whom she has recourse whenever she observes symptoms in the child which she finds disturbing" (p. 17);
- to set up a system of continuous observation and assessment - "simple but accurate and regular observation notes will finally build up a record of great value, whose contents will be discussed periodically by the whole educational team attached to the school" (p. 22);
- to set up a system of participation which in the paper on pre-school education means "dialogue with parents whose participation in the common effort is solicited and guided by the kindergarten teacher" (p. 17);
- to think of education as a form of research and to develop it on the model of a research project.

The extent to which these intentions will become a reality remains to be seen. Generally speaking, despite the centralization of the system, the preventive, pedagogic, social and other functions of pre-compulsory education are neither well-ordered nor co-ordinated, for want of a clear definition of priorities. These functions are sometimes contradictory but do not appear to be so because responsibility for them lies with different authorities.

Thus the function of prevention and early detection is performed by the psycho-medico-social centres and the school medical inspection system on the preventive medicine model and is centred on the child. The educational function is fulfilled by the Ministry of Education, whose yardstick is the education system. The social function of pre-school education is especially in evidence in the context of university-based experiments in the realm of "compensatory" education. They see the child in interaction with its various environments and by shifting the emphasis from the individual to the institution may lead to a critical analysis of the school.

Research topics and modes of evaluation are guided by these functions.

EVALUATION METHODS

Evaluation of the effects of pre-compulsory education in general

Classical studies which measure the effects of the kindergarten by comparing groups attending kindergarten with groups not attending are inadequate to deal with the Belgian situation (de-schooling experiments would be the only kind possible). Furthermore, our research tradition does not lead us to undertake the vast longitudinal surveys familiar to the Anglo-Saxon countries.

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Certain hypotheses on the effects of pre-school education have been made following a second analysis of the results of international surveys organized by the International Association for the Evaluation of Educational Attainment (IEA - G. R. Austin and J. N. Postlethwaite, 1973). In particular, Belgium illustrates the link which is said to exist between early entry to kindergarten, the existence of a programme of "cognitive stimulation" at pre-primary level and performances in mathematics at 10 and 13 years. These a posteriori analyses can only produce at the very most working hypotheses. They show the value that would attach to international comparative studies directly centred on the pre-school stage.

"In the field of summative evaluation, national surveys of school attainment constitute useful references, particularly for the adjustment and interpretation of school marks awarded locally." (1) It is important to circumscribe the docimological variables inasmuch as they may influence the type of action taken in the kindergarten. Thus, before introducing early screening as a means of preventing school failure it might be useful to enquire into the astonishing difference between the two language systems in the percentage of children repeating their first year of school - less than 10% in Flanders and 20%-25% in Wallonia.

A national survey of the effects of pre-compulsory schooling amounts to assessing the present reform effort being made by the various authorities.

The evaluation of a "reform" calls for the urgent introduction of a system of summative evaluation that is external to the education system. The agents of reform (in particular the inspectors) are at one and the same time judges and parties. Furthermore, in developing the project there is a risk of "attaching excessive importance to certain areas which catch the imagination through their high degree of structural and methodological innovation." In this regard a vast piece of research is at present being undertaken (2) dealing with the definition and realization of the objectives of fundamental education. It will proceed in two main stages:

I. Description and definition of explicit and implicit objectives

1. What objectives do the organizing and teaching authorities propose for fundamental education:

   a. at the most general level ?

   b. for special branches or streams ?

2. How far are these objectives:

   - explicit ?
   - clear (operationally defined) ?
   - specific:
   a. in the official texts ?
   b. in statements by persons responsible ?
   c. in the media used in schools ?
   d. in the minds of teachers ?

Description and definition of contextual variables

Notably those which have appeared most relevant to the Belgian situation in the context of international surveys.

II. Evaluation phase

Devising of instruments to measure the extent to which the objectives described have been attained. These will perforce be instruments of analysis and diagnosis (criterion referenced tests) will form a corpus for practical use in schools.

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(1) Rapport d'activités de recherche et de développement. Laboratoire de Pédagogie expérimentale, University of Liège, 1973.

(2) Research carried out by the Laboratoire de Pédagogie Expérimentale of the University of Liège with the support of the Fund for Joint Fundamental Research and the Organization of Schooling.

This research directed towards an operational analysis of fundamental education could be linked up in future with the research already under way in the pre-primary field. The method consisting of relating a list of objectives to a set of norm-referenced tests could then be replaced by a systematic analysis of the various media through which formal objectives (curricula) and informal ones (teaching techniques) achieve expression. The theoretical and philosophical models would be set against the real situation in schools.

Conception of evaluation in the context of reform

In the fundamental document on reform, evaluation is judged to be important: "The kindergarten will never really fulfil its mission until each child, taken individually, is skilfully assessed and given an education suited to his needs." (p. 15)

Direct observation and its role in formative evaluation are upheld. "It is important above all to observe the child, to speak to him, to study his reactions, to take account also of the behaviour of others towards him." (p. 22)

The document gives details on the spirit rather than the means of evaluation. "We may hope that in the relatively near future scales of evaluation and adequate tests will be available to teachers. But it must be emphasized that, fundamentally, evaluation is more a matter of a state of mind, a desire for realism and clarity than of a set of techniques. The essential thing is always to put the question: has the aim set been fulfilled ? How is the child getting on ? Why does he behave as he does ? What will he be able to do tomorrow ? ..." (p. 22)

It is probable that the evaluation procedures referred to in the document will be devised subsequently in the course of action research, as is at present being done in secondary education (1).

Pending the development of such research (2) at the pre-primary level, behavioural inventories illustrating the things the child should be able to do at the close of kindergarten education at the individual and relational levels provide useful reference systems for educational practice. They represent a real attempt to put objectives in terms of observable behaviour.

Example: Putting one's imagination deliberately to work (p. 74)

- discovering ways of storing some new equipment;
- discovering ways of carrying out a simple task (we might do it like this ...);
- imagining a situation and its consequences and the possible effects of something that is going to happen and pointing them out in advance (if he, if we ..., then);
- foreseeing, not in the context of any situation, the possible results and effects of happenings which are being talked about ("when somebody ... then ...");
- deliberately embroidering (in pictures or words) on a real experience (and being able to say where he "embroidered");
- imagining the scene of a sketch of which the child knows only the action (describing the place, the weather, the people who do not take part in the action ...);
- etc ...

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(1) In fact, although the reform of education in Belgium is essentially philosophical (G. De Landsheere, 1974), it has for some years been accompanied by a research policy. Its aim is "to stimulate research which sees teachers not as persons 'receiving' further training and 'applying' innovations conceived and prepared by others, but as 'agents' who are allowed to take full responsibility" (P. Vanbergen, 1973).

(2) Of all the research listed, two studies were commissioned by the Ministry of Education; the others have been or are being carried out by universities or private foundations.

Such checks can be used in two ways (summative and formative):

- "to determine what has been learned and evaluate its importance;
- to consider whether the child is moving continuously towards what still remains to be learned" (p. 72).

These behaviour lists do not claim to be exhaustive but rather are indicative of a tendency to judge the effectiveness of educational action "by the diversification, modification and enrichment of behaviour that it produces in the child at individual and social levels" (p. 78).

The basic reform documents are not yet available for the Flemish-speaking part of the country. However, they have been preceded by thinking about the adjustment of objectives and evaluation methods. At kindergarten level only direct observation supported by psychological inventories is recommended, with a view, first and foremost, to prevention. The evaluation of knowledge attainment is judged to be difficult if not impossible (Ministry of Education, 1973).

Prognostic and diagnostic evaluation

The first attempt at the objective evaluation of development independently of educational reform is centred on the concepts of failure to adapt to school and of prevention. Legislation on which the activities of school health centres are based provide for "the screening of physical and mental disorders, sensorial, intellectual and character deficiencies and instrumental disorders such as dyslexy, bad spelling, left-handedness and development disorders". The prognostic instruments set up to this end are justified by school success. The danger of establishing a double equation "school problem = maladjustment = pathology" is not ruled out. Furthermore, school medical care tends to show the usual gap between preventive and remedial medicine.

Methodologically speaking, diagnostic procedures (clinical and causal) and prognostic procedures (norm-referenced and probabilistic) are often confused particularly because they use the same types of instrument - general or specific norm-referenced development tests.

The relation between prognostic procedures and action can be of various kinds:

- large scale screening makes it possible to pick out "doubtful" cases and to submit them to detailed pedopsychiatric diagnosis in order to decide on therapeutic action (P. Devos, 1974);
- the preliminary measurement of development identifies any difficulties which call for specific exercises of a remedial type (a noticeable tendency in the first stages of compensatory programmes);
- predictive instruments are used for the experimental control of curricula - the performance of each child is related to his probable learning curve. The quality of the educational action is evaluated according to the positive gap between predicted and observed individual attainment. Prognostic evaluation does not prejudge objectives or modes of action. Essentially probabilistic (variations possible) and conditional (action necessary), it is presented as such to the teacher (L. Leclercq, J. Paquay, 1973).

In the context of compensatory education projects some differential studies have been carried out among children from various social backgrounds. Many of the techniques currently used to objectivize psychological development and school learning have been shown to be inadequate. Certain tests have been fundamentally transformed: (Brunet-Lezine (Brussels)), psycho-motor development battery and personality test (Ghent), operative tests (Liège). Others have been devised, in particular language tests (Ghent, Mons, Liège) and, in another context, a space perception test (Louvain).

Identification of process variables

It has been shown to be necessary to go beyond descriptive diagnosis in the functional analysis of development or of observed differences.

To point to the family, the school or the social class as general, essential factors does not explain anything. It must be determined by what mechanisms these factors produce their effect. Where the aim is to find out what action in a given environment leads to changes in the child's attainment and ability, it is useful to distinguish between the following:

- background variables which cover socio-economic status, material and cultural environment;
- process variables which show what really is happening in the family or institution (T. Husen, 1972).

Several studies take this approach and endeavour to analyse the interaction between the child and his family and school environment (see list). One could prepare further complementary studies with the following aim:

- analysis of the influence of situations proposed to the children on their various types of production (M. Detheux, G. Manni, 1973);
- experimental analysis of behaviour to take account of the processes implied in creativity or of the mechanisms involved in transition from one stage to another, in line with the theory of Piaget (M. Richelle, 1974).

Summative and formative evaluation of action programmes

A fact observed in the first phase of development in all action programmes (1), whatever their orientation, is the specific and short-lived nature of any positive effects that were revealed in the complementary post-tests or follow-up of children in the first primary year. This observation has led to readjustments in the direction of a broader concept of the programmes, active participation by parents and teachers and continuity of action at primary school level. Projects have been moving increasingly towards curriculum development rather than towards the adjustment of diagnosis and treatment.

For that reason the problems dealt with in the action programmes are largely identical with those of the current reform of pre-primary education.

Programmes developed in existing kindergartens, but by original methods (mobile teams, seminars, training sessions, etc.) frequently continue the eclectic tradition of the Belgian kindergarten. Above all they introduce the concern to specify objectives, and hence evaluation methods within the context of teamwork.

Two trends dominate the definition of objectives and, consequently, the choice of educational activities.

a. Compilation of lists of activities based on observed socio-cultural differences, on the necessary prerequisites for learning in the first year of primary school and on aspects of development and knowledge that have been neglected in the kindergarten.

   Organization of these activities according to certain theoretical models: Gagné (Ghent) or Guilford (Mons). Each activity is formulated in terms of observable behaviour which can therefore be controlled. At Mons, the activities were grouped in a "co-operative", thanks to which it is possible to organize, not a curriculum, but tailor-made courses.

b. Derivation of educational situations judged to be favourable in the context of a certain theory of development and capable of being used in various ways (factual knowledge, performances of operations, "creativity") (Liège).

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(1) Almost all the experimental programmes developed at pre-primary level have been carried out as part of an inter-university project directed by the Bernard van Leer Foundation (1969-1974).

These efforts have made it possible to establish useful intermediate check-points for a formative evaluation of the curriculum that is at once analytical, criterional and continuous. The tests used for summative evaluation are most frequently classical development or readiness tests which seek to embrace mastery criteria and transfer criteria (see list).

In action programmes the problem has been not to constitute or compare curriculum "models" but to specify a range of means and educational strategies corresponding to particular individual or collective needs. These instruments, such as the activity "co-operative", may be used, evaluated and modified by various educational agents - teachers, parents and older children.

The action engaged in has given rise to a certain division of educational functions, but also to a critical analysis of the social and institutional conditions of pre-primary education. In introducing these dimensions, research is going beyond curriculum development. It is radicalizing reform objectives or, more precisely, endeavouring to bring their implementation nearer to the ultimate aim - democratisation. It is at that level of sociological analysis that adequate evaluation instruments are most sadly lacking.

Several evaluation problems remain unsolved:

a. Analysis of the educational system:

Programmes endeavour to go beyond the classical experimental method of comparing results before and after action. However, variables due to educational control, modes of action or learning processes, are rarely identified and related to one another (J. Cardinet, 1974). Any analytical model that made it possible to integrate the contextual and institutional variables would help the evaluation of action research.

b. Matching of objectives and evaluation instruments:

Action objectives evolve faster than evaluation criteria. The result is the misuse or sophistication of inadequate tools. What is needed is to clarify the intentions, functions and methods proper to instruments of diagnosis and prognosis (J. Cardinet, 1973). This would no doubt make it possible to defuse the debate on the use of tests.

c. Requirements of mastery evaluation:

The evaluation of a goal-oriented programme necessitates the construction of criterion-referenced tests and the application of new statistical indices. Models that make it possible to operationalize objectives are based essentially on the logical analysis of content or behaviour. It would be necessary to construct a theoretical and experimental framework that would integrate these development characteristics and the learning capacities of the young child.

d. Need for multidimensional evaluation:

The combination of various types of evaluation (formative, summative, illuminative) would make it possible to control the primary and secondary effects (the Hawthorne effect, positive diffusion, re-interpretation, conflicts, etc.) of a programme both while it is being drawn up and when it is being generally applied, thus contributing to its internal and external validity.

INVENTORY OF RESEARCH

RESEARCH INTO EARLY CHILDHOOD

1. Project title

Longitudinal study of development of young children in particular conditions

Researcher(s) and institute

W. De Coster
Rijksuniversiteit
Gent
Dienst voor Psychologie
St Pietersplein 7
9000 GENT

Context and objectives

To construct, standardise and study the validity and reliability of a psychomotor development test for the first year.

To clarify the relations between various behaviour and personality characteristics, together with their origins and prediction value.

To study possibilities of intervention.

To study corrective treatment.

Sample

Random sample of the child population of the city of Ghent: 80 children per month, 4 examiners.

Various samples:

- twins
- children having suffered from hypoxia at birth
- children from underprivileged social environments

Methods and instruments

Adaptation of existing instruments: Bayley (Scales of Infant Development), Gesell (Developmental Schedules), Buehler-Hetzer (Entwicklungstest), Griffiths, R., (The Abilities of Babies), Frankenburg, W., and Dodds, J., (Denver Developmental Screening).

Interview and observation to assess the behaviour of adults dealing with children.

Instruments applied at regular intervals to the various samples of children.

Results

Ongoing project.

2. Project title

Action in the crèche (published in 1973)

Researcher(s) and institute

B. Vernele et al.
Université Libre de Bruxelles
Service de Psychologie génétique (Professeur P. A. Osterrieth)
Avenue Jeanne 44
1050 Bruxelles

Context and objectives

To introduce practical psychology into the crèche.

Programme aiming at individualization of educational practices in an educational environment which is collective, complementary and integrated with family life.

To introduce an institutional change implying a modification of structures and methods for the crèche: minicrèche ; infant centre.

Sample

Crèche of the municipality of Anderlecht.

Centre for 25 children.

Methods and instruments

Active observation by a psychologist:

- contacts and exchanges of views with the staff ;
- organization of case-discussion meetings ;
- contacts with the family ;
- screening for late psychomotor development in the child ; physiotherapy.

Experimental minicrèches:

- contact with parents ;
- heterogeneous age-group ;
- outward-looking.

Results

Hints of change noted in interprofessional relations ; union action for better training ; presence of parents in the crèche ; modification of routines.

Granting of special permission by the Ministry of Public Health.

Ongoing project.

See also: "Influence des attitudes parentales sur le développement de jeunes enfants" (Brussels) and "Application des méthodes éthologiques à l'observation du comportement des enfants de 2-6 ans et des institutrices en classes prégardiennes" (Liège).

3. Project title

Variations in the social behaviour of young children in crèches with different educational approaches

Researcher(s) and institute

M. Michel
Université de Liège
Service de psychologie de l'enfance et de l'adolescence
Avenue Blonden 11
4000 Liège

Context and objectives

To test the hypothesis of the possible existence of relationships of an objectival kind between the child and his mother-substitute at the crèche.

To define the variables in social behaviour of children attending crèches with differing approaches - one liberal, permissive and affectionate ; another repressive, strict and impersonal. Approaches identified on the basis of systematic and objective observation of day-to-day routine.

Sample

30 children of 4 to 26 months in each crèche.

Methods and instruments

Observation of the reaction of the child when faced with a strange person.

Direct active observation by the psychologist in 4 stages:

- physical presence,
- verbal contact,
- physical and verbal contact,
- breaking off of contact.

Observations codified and analysed with the aid of three ordinal scales concerning corporal, facial and vocal expression. Items in progression from negative to positive.

Results

Variations in the social behaviour of children faced with a strange adult according to the educational approach of the crèche.

Passive reactions ill-adapted to situation and age in a poor relational context.

Facial, vocal and physical activities well-adapted to situation and age in a happy relational context.

FORECASTING INSTRUMENTS

1. Project title

Screening method for reading and writing difficulties in 5 - 6 year-olds

Researcher(s) and institute

Dr Devos
Centre de médecine préventive de l'enfant et de l'adolescent
Complexe provincial du Barbou
Liège 4000

Context and objectives

To prepare a battery of tests that can be applied to third-year kindergarten children examined at a school medical centre

Sample

1711 children from 6 communes.

Methods and instruments

Questionnaire to parents.

Questionnaire to teachers.

Clinical examination.

- medical screening.
- screening for intellectual deficiencies and mental disorders.

Buysse-Decroly mental development
Stambak rhythm
Borel-Maisonny complex syllables
WISC vocabulary
Santucci
Synthesis of results

Results

Comparison of results of screening tests with school results and reading and spelling tests.

Choice of criteria to determine whether a child is "at risk" or not.

Of 100 children:

- of 38 "at risk", 29 fail,
- of 62 "not at risk", 3 fail.

Screening is useful in so far as the majority of "at risk" children undergo diagnostic tests and receive proper treatment.

2. Project title

Prediction of progress in learning to read in 1st year primary school - PREDIC method

Researcher(s) and institute

E. Boxus-Leclercq
Université de Liège
Laboratoire de Pédagogie expérimentale (Professeur G. De Landsheere)
Sart Tilman par
4000 Liège 1

Context and objectives

To describe the probable learning process in order to prevent failure at the beginning of schooling and its consequences

Sample

1968: 60 children (prediction not communicated)
1970: 190 children (municipal administration informed)
1971: 150 children (municipal administration and teaching staff informed)

Methods and instruments

Measurement of prediction variables then of criterion variables among a reference population.
Calculation of multiple regression equations from the foregoing data.
Application of equations to the prediction variables of another population very similar to the first.
Computer tracing of the probable learning profile.
Educational action.
Comparison of predicted and observed results.

Results

Operational instrument.
Probable profile with margins of variation communicated to the teacher.
Educational guidance as a follow-up to prediction indispensable.

3. Project title

Prediction of mathematics learning in the 1st year of primary school

Researcher(s) and institute

C. Marcotty
Université de Liège Laboratoire de Pédagogie expérimentale
Sart Tilman par 4000
Liège 1

Context and objectives

To improve mathematics teaching and its adaptation to the needs of each child.

To construct a prediction instrument to detect probable difficulties.

To construct a control instrument permitting the objective evaluation of the learning achieved (criterion - references test).

Sample

8 classes and 109 children doing the new mathematics course.
10 classes and 103 children doing the arithmetic course.

Methods and instruments

Construction of prediction variables.

Genetic tests - classification, number,
- seriation, inclusion,

Raven Progressive Matrices
Kohns Cube
PMA subtests

Construction of two criterion tests.

- in new mathematics
- in arithmetic on the basis of a contents analysis of school text-books and exercises proposed by the teacher.

Measurement of prediction variables then of criterion variables.

Calculation of regression equations linking the former to the latter. Cross-validation.

Results

Preparation of an operational instrument (i.e. organization and continuous assessment of mathematics learning in the first year of primary school with a view to compensatory action).

DIFFERENTIAL STUDIES

1. Project title

Personality development in socially handicapped young children (published in 1973)

Researcher(s) and institute

M. Hilderson de Zutter
Rijksuniversiteit Gent
Dienst voor Psychologie
St Pietersplein
9000 Gent

Context and objectives

To determine personality variables that can be used in evaluating an action programme.

Methods and instruments

Experiments with the following instruments:

- Where are you ? game (Engel and Kaine).
- Doll play.
- Anxiety scale (based on Sarason).
- Sociometric questionnaire.
- Family Relations Test (Bene and Anthony).
- Part of Family Attitudes test (Jackson).

Evaluation of the influence of these variables on action programme post-tests.

Results

Manifestation of greater anxiety and a less favourable self-image in children from a poorer social environment.

2. Project title

Differential study of the psycho-linguistic development of children aged 4-6 years

Researcher(s) and institute

M. Jehin-Detheux/G. Manni
Université de Liège
Laboratoire de Pédagogie experimentale
Sart Tilman
par 4000 Liège 1

Context and objectives

Functional study of language relating syntax and content to the situations that determine them.

Sample

135 pre-school children from 4 1/2 to 6 years from three different socio-economic levels.

Methods and instruments

Recording of verbal reactions to pictures.

Analysis of data from the point of view of syntax and adequacy of content.

Results

Situations favour the production of certain types of syntactical constructions regardless of social identification. Certain modes of approach vary according to the social milieu.

3. Project title

Study of operational development in children aged from 5-6 years from different socio-economic milieux

Researcher(s) and institute

J. Beckers-Paquay/A. M. Thirion
Université de Liège,
Laboratoire de Pédagogie experimentale
Sart Tilman
par 4000 Liège 1

Context and objectives

Attempt to explain the differences in intellectual development on the basis of a general theory (Piaget). To find out the development conditions that may be favourably influenced.

Sample

270 children aged from 5-6 years, from three different socio-economic groups.

Methods and instruments

Application of operational tests inspired by Piaget's theories.

Processing of data by multiple regression analysis.

Results

Constants observed among children who were underprivileged in relation to privileged environment (discrepancy and heterogeneity). Need to modify instruments in the direction of formative evaluation.

Functional analysis of differences in a natural milieu.

CHILD-MILIEU INTERACTION

1. Project title

Influences of parental attitudes on the development of young children (published in 1973)

Researcher(s) and institute

S. Billenpohl, A. Bogaerts, A. Cambier, N. Carels, C. Deguent, B. Versele
Université Libre de Bruxelles
Service de Psychologie génétique (Professeur P. A. Osterrieth)
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1050 Bruxelles

Context and objectives

To attempt to define the features of family environment which are favourable or unfavourable for the child's potentialities.

To circumscribe certain relational factors which may, at an early age, cause deficient development.

To bring out the level of development at which such relational factors are particularly pernicious.

To outline an explanation of "deprivation" that can be used operationally in preventive or compensatory action.

Sample

90 children from 10 to 24 months.

Families classified according to socio-economic milieu as defined by means of weighted indices (adaptation of the Graffar scale).

Sample by ecological transect.

Methods and instruments

1. Characteristics of parental attitudes. Non-directive interviews and direct observation in the family. Analysis of content by a team of psychologists (judges) to identify the relevant indices and define variables.

2. Behavioural inventory and development level of each child. Development of a standardized observation pattern complementary to the Brunet-Lézine development scale.

3. Relation of the variables characterizing relational experience to the behavioural inventory of the child.

Statistical analysis: structural model designed to isolate constellations of variables.

Results

Revelation of interpretation axes or sets of variables (training, perception, etc).

Baby-testing system making it possible to assess a child's behaviour qualitatively and quantitatively.

Evaluation in progress.

2. Project title

Application of ethological methods to the observation of behaviour in 2-3-year-old children and in pre-kindergarten teachers

Researcher(s) and institute

M.L. Carels-Willems, G. Manni, M.T. Loret-Wannyn
Université de Liège
Laboratoire de Pédagogie expérimentale (Professeur G. D. Landsheere)
Sart Tilman par 4000 Liège 1

Context and objectives

To determine the repercussions of the class situation on the behaviour of children aged 2-3 years. Action to make an immediate improvement in the situation and gradually to work out a curriculum.

Sample

13 pre-kindergarten schools of the city of Liège (182 children observed).

Methods and instruments

Observation methods derived from ethology.
Ethograms and behaviour analysis categories.
Controlled modifications introduced to obtain specific educational interaction.

Results

Behavioural picture of activities and inter-child, child-adult (teacher or nurse) and child-object relations at school. Study of variables such as socio-cultural environment, age, seniority, sex.
Influence of the teacher and of the situations in which the children are placed (analysis in progress).

3. Project title

Experimental analysis of didactic behaviour of mothers

Researcher(s) and institute

J.P. Pourtois
Université de Mons
Faculté des Sciences psycho-pédagogiques
Place du Parc, 18
7000 Mons

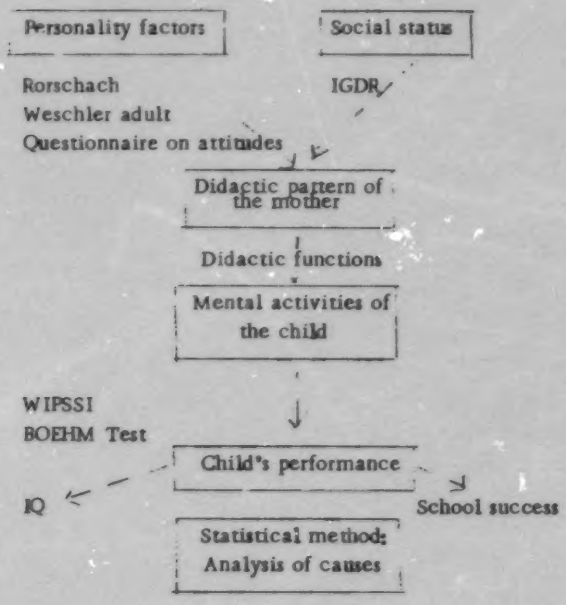
Context and objectives

To establish the contribution of proximal variables, particularly the didactic behaviour of the mother, on the developmental, intellectual and scholastic performances of the child.

Sample

80 children and their mothers

Methods and instruments



Results

Ongoing project

4. Project title

Teacher-pupil relationships according to socio-economic milieu.

Researcher(s) and institute

L. Heyerick
Rijksuniversiteit Gent
Dienst voor Psychologie
St Pietersplein 7
9000 Gent

Context and objectives

To study the teacher's expectation and his ideal image of the pupil.
To clarify the exercise of power at school.

Methods and instruments

Direct observation
California pre-school social competence scale

Results

Variation in the behaviour of the kindergarten teacher according to the child's social milieu. Attempt to interpret "misunderstandings" between teacher and pupil and their consequences.
Hypothesis concerning expectations and power exercised by the teacher.

5. Project title

Child activities and differentiated socialization - sociological approach

Researcher(s) and institute

G. Lienard, E. Servais
Université de Louvain
Veancingenstraat, 116
3000 Leuven

Context and objectives

To test the following hypothesis: games, toys, ways of playing and play areas have various social, cultural and ideological functions differentiated according to social standing.

Sample

Comparative study of families of "middle" and "lower" social standing.

Methods and instruments

Observation and analysis of games, ways of playing and play areas.

Interview.

Reference to cultural background and facilities, organization of the home, timetable of parents' and children's activities, position of the family in the neighbourhood, social class.

Results

In contrast to working class families, in families around the middle of the social scale play activities are regulated and calculated.

Play patterns bring about social differentiation.

EXPERIMENTAL ANALYSIS OF BEHAVIOUR

1. Project title

Learning without error and cognitive development (published in 1972)

Researcher(s) and institute

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Laboratoire de Psychologie expérimentale,
Université de Liège
au Sart Tilman
par 4000 Liège

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Context and objectives

To establish the factors responsible for transition from one stage to another by inducing in subjects who hitherto have not displayed it, behaviour demonstrating operative structures (seriation, classification, number conservation) using methods of progressive learning.

Sample

Small groups

Methods and instruments

Experimentation with equipment combining Piaget methodology and operant conditioning techniques.

Use of operatory tests in pre-tests and post-tests.

Results

Clear progress in specific tests.

More or less marked progress in post-tests unrelated to the field covered.

2. Project title

Experimental exploration of creative behaviour (in the course of publication)

Researcher(s) and institute

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Laboratoire de Psychologie expérimentale
Université de Liège
au Sart Tilman
part 4000 Liège 1

Context and objectives

To analyse the conditions governing the appearance of flexible and regulated behaviour in a field of manipulation.

Sample

Small experimental and control groups.

Methods and instruments

Simple situations, then more complex ones, inducing the child to make use of everyday objects and materials in an unusual way in order to achieve a desired goal.

Non-verbal learning, without error.

Original control tests requiring use of various techniques, destructuration and restructuration of elements to form a significant whole.

Results

Discovery of more numerous and more highly diversified solutions, more initiative and self-confidence in the children in the experimental group.

ACTION PROGRAMMES

1. Project title

Compensation programme (1970-1972)
Activation programme (1973...)
for socially underprivileged children attending kindergarten (published in 1973)

Researcher(s) and institute

A. de Meyer, A. Doom, R. Doom, P. Vangeert, L. Heyerrick, L. Vandevyer, L. Vaneeckel, N. Potty, N. Vermassen, N. Vermeer
Rijksuniversiteit Gent
Dienst voor Psychologie
St. Pietersplain 7
9000 Gent

Context and objectives

I. Construction of a structured programme bringing into play behaviour considered favourable to school success.
Perception-motor co-ordination programme (Frostig).
Language and reasoning enrichment programme.
(1970-1972)

II. From 1973
Construction of an activation programme:
- taking the child's attainment as the basis (and not his deficiencies);
- individualization by forming flexible groups;
- broadening of objectives;
- fitting into the life of the class;
- improving co-operation with teachers and parents.

The new programme covers five fields: live experience, reasoning, control of the body, language, social relations and personality.

Application of the programme in the family.

Sample

I. 48 children aged 4 years from a low social level, taken at random from 6 schools
8 groups of 6 children: 4 experimental groups and 4 control groups.

II. From 1973:

1 experimental class and 1 control class.
8 classes.
6 experimental classes, of which 2 applied the programme in the family.
2 control classes.

Methods and instruments

I. Programme applied by a kindergarten mistress to small groups taken outside the class (duration: 5 months).

- Summative evaluation (pre-test and post-test)
- Leiter International Performance Scale
- AKIT (Amsterdamse Kinderintelligentie Test, Drenth)
- Frostig: Developmental Test of Visual Perception

Analysis of variance

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II. Application of the programme to a normal class. One month's instruction for the teachers responsible for the programme.
Supervision by specialized teachers and a psychologist.
Evaluation (pre-test and post-test):
- Personality tests (original)
- Scale of values
- Emotional perception
- Image of self
- Grammatical comprehension test
- Adaptation of "Primary Mental Ability Test Scale" - Thurstone
- Shortened version of Frostig
- Reading and arithmetic readiness tests

Formative evaluation - programme units evaluated weekly.

Results

I. Positive effects especially in fields where training was given (specific criteria), but greatly attenuated after some months.

II. Effects on specific criteria, but also on transfer criteria.

Evaluation in progress.

2. Project title

Psycho-educational action in the family

Researcher(s) and institute

J. P. Pourtois, A. Auverdin, N. Lossignol
Université de Mons
Faculté des Sciences psycho-pédagogiques
Place du Parc 18
7000 Mons

Context and objectives

To awaken parents to the child's need to experiment and express itself.

To establish through activities an inter-person relationship that is beneficial to the child, and reassuring to the parents.

To introduce parents to the observation of the child's activity.

To create positive and constructive relationships between school and parents.

Sample

90 families of children between 5 and 7 years attending kindergarten or in the first year of primary school.

Methods and instruments

Experimentation in strategies and procedures at family level:

- family albums of educational activities,
- programme animation and control.

Regular visits to families.
Production of films (TV) of the mother and child engaging in educational activities.
In the school, films discussed at meetings of parents and teachers.

Results

Improvement of the child's material and cultural environment.
More time for and greater interest in the child.
Interest in school achievements.
"How ?" prevails over "What for ?"

3. Project title

Co-operation in teaching activities and psycho-educational action at home and in the school 1974

Researcher(s) and institute

J. P. Pourtois, A. Auverdin, N. Lossignol
Université de Mons
Faculté des Sciences psycho-pédagogiques
Place du Parc, 18
7000 Mons

Context and objectives

To clarify educational action.
To formulate teaching objectives in terms of activities which are observable and therefore controlable.
To individualize learning (compensatory programme made to measure).
To propose a tool that can be used in different contexts and by different educators (teachers, parents, older children).

Sample

90 families of children from 5 to 7 years of age attending kindergarten or in the first year of primary school.

Methods and instruments

Identification of teaching activities proper to the kindergarten, prior to primary school and useful having regard to the characteristics of children from socially underprivileged environments.

Analysis of activities from the point of view of the relationship between teaching objectives and subjacent mental activity (Guilford model).

Application of activities to experimental classes. Use of monitoring technique.

Evaluation - WIPSSI (Wechsler intelligence scale for the pre-school and primary period), Boehm-test.

Results

300 activities analysed and listed.

Evaluation under way.

4. Project title

Research into the diagnosis of cognitive deficiences in children from 5 to 7 years of age and how to compensate for them

Researcher(s) and institute

A. Clausse
Université de Liège
Service de Méthodologie
Sart Tilman
par 4000 Liège 1

Context and objectives

To identify cognitive deficiences in children aged from 5 to 7 years in the verbal and logico-mathematical sphere.

To set up a remedial programme in conjunction with teachers.

Sample

An experimental group and a reference group (matched samples).

Methods and instruments

Battery of original tests:

- Intelligence test
- Ikonia A 51 (Pire)
- Vocabulary tests
- Logico-mathematical tests
- Picture description tests
- Questionnaires to mistresses by A. Jadoulle
- Family anamnesis.

Information from teachers on deficiencies noted.
Validation of tests by means of talks with teachers and results for the end of the first year.
Working out strategies for remedial work in conjunction with teachers.
Application of the strategies.
Evaluation - success achieved in the first year.

Results

Evaluation in progress.

5. Project title

Experiment in operatory learning at pre-school level in the context of a compensation project (published in 1973).

Researcher(s) and institute

A. M. Thirion, J. Deckers-Paquay
Université de Liège
Laboratoire de Pédagogie expérimentale (Professeur G. De Landsheere)
Sart Tilman
par 4000 Liège 1

Context and objectives

To promote in the teacher educational strategies in agreement with hypotheses relative to the quality of the environment.
To define the objectives of the programme on a double basis - content and intellectual steps (strengthening of anticipation and action control processes).

Sample

1. 120 children (overall action)

2. 60 children (operatory learning)

Methods and instruments

Work in small groups of children.
Co-operation with the teacher to define the units resulting from the combination of the two dimensions of the work plan and to carry out formative evaluation.

Results

Positive results.
Progress in all operatory tests.
Greater homogeneity and attenuation of the difference between social milieux.

6. Project title

Learning of operational linguistic structures in a group situation

Researcher(s) and institute

Christiane Vandenplas-Holper
Faculté de Psychologie et des Sciences de l'Education
Unité de Psychométrie
Université de Louvain

Context and objectives

To promote, by bringing together in small groups children of different ages and levels of development, the learning of operational linguistic structures.
To study the relationships between cognitive development and linguistic development.

Sample

Small groups of children aged 5-6 years and a few older children.

Methods

Evaluation by the clinical method of the level of operational linguistic development.
Observation of interaction in the learning situations.

Start of project

January 1975

7. Project title

Continuous assessment of progress in learning to read in the context of compensatory action (published in 1973)

Researcher(s) and institute

M. Detheux-Jehin, E. Boxus-Leclercq
Université de Liège
Laboratoire de Pédagogie expérimentale
Sart Tilman
par 4000 Liège 1

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Context and objectives

To set up the conditions for mastery learning

Sample

Several experimental and control classes

Methods and instruments

Setting up of an analytical criterion and continuous evaluation system.
Construction together with teachers of formative evaluation instruments.
Experimental scheme comprising an internal evaluation system (centred on the evolution of the experimental groups) and an external one (centred on comparison with the control groups).

Results

Changes in teachers' practices.
A higher average.
Reduction of the range of individual levels (homogenization).
Lowering of the statistical correlation between individual levels and social origin.

8. Project title

Organization and continuous assessment of mathematics learning in the first year of primary school in the context of compensatory education (published in 1973)

Researcher(s) and institute

J. Beckers-Paquay
Université de Liège
Laboratoire de Pédagogie expérimentale
Sart Tilman
par 4000 Liège 1
Professor G. De Landsheere

Context and objectives

To provide the conditions for mastery learning

Sample

First year primary school classes (two experimental and one control)

Methods and instruments

Definition of objectives.
Construction of the curriculum.
Model for the generation of learning and control items (universe defined tests).
Same experimental scheme as for research on reading.

Results

Changes in teachers' practices.
A higher average.
Reduction of the range of individual levels (homogenization).
Lowering of the statistical correlation between individual levels and social origin.

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SPECIFIC PROGRAMMES

1. Project title

Methodology for the teaching of mathematics in the kindergarten (publications)

Researcher(s) and institute

G. and F. Papy
Centre belge de Pédagogie de la Mathématique,
224 avenue Albert
1180 Bruxelles

Context and objectives

To what extent is the language of papygrams and the Papy mini-computer accessible to 4-year-old children ?
To what extent does use of such languages facilitate the grasping of the concept of number ?

Sample

3 experimental classes of 30 children each.

Methods and instruments

Research and experiments.
Interviews.
Analysis of documents.

Results

Language of papygrams accessible to children of 4 years of age.

2. Project title

Experimental study of the Lambert rhythmic method

Researcher(s) and institute

A. Dehant
Université de Louvain
Faculté de Psychologie et des Sciences de l'Education
Tiensestraat 100
3000 Louvain

Context and objectives

Experimental study of the Lambert method (kindergarten) in relation to reading attainment.

Sample

Control group of 30 children.
Experimental group of 30 children.

Methods and instruments

Comparison of results of the two groups.

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3. Project title

Rhythmic and physical expression in the kindergarten

Researcher(s) and institute

A. Dehant
Université de Louvain
Faculté de Psychologie et des Sciences de l'Education
Tiensestraat 100
3000 Louvain

Context and objectives

Contribution to the methodology of free expression in the kindergarten.

Sample

Two samples of 40 children each.

Methods and instruments

Application of exercises and analysis of results.

4. Project title

Experimental programme of exercises for the kindergarten

Researcher(s) and institute

A. Dehant
Université de Louvain
Faculté de Psychologie et des Sciences de l'Education
Tiensestraat 100
3000 Louvain

Context and objectives

To establish an experimental programme of maturity exercises for the last year of kindergarten (selection of progressive exercises - body schema, concept of space, rhythm, language).

Sample

500 children from 5 to 6 years (graded sample).

Methods and instruments

Preparation of a programme on the basis of surveys and bibliographical research.
Analysis of recordings and documents.

Results

Establishment and application of a programme of exercises for the kindergarten.

5. Project title

Space factor test (5 to 6 years)

Researcher(s) and institute

A. Dehant
Université de Louvain
Faculté de Psychologie et des Sciences de l'Education
Tiensestraat 100
3000 Louvain

Context and objectives

To prepare a test covering the various aspects of the space factor.

Sample

300 children aged from 5 to 6 years.

Methods and instruments

Analysis of documents.
Analysis of items.
Grading.

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2. Le langage;
3. L'éducation rythmique et musicale;
4. Mathématiques;

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EVALUATION OF PRE-SCHOOL EDUCATION: RESEARCH IN FRANCE

Marguerite Laurent-Delchet

I. INTRODUCTION

Since 1881 the nursery schools (écoles maternelles) have been an integral part of the school system in France. Accordingly, they are still marked, at least from the administrative point of view, by the strong sense of centralization and hierarchy which is typical of the French system. We shall, however, see how and as a result of what influences they have developed original characteristics and come to form a "micro-system" within the system. The official documents and instructions giving them official status and determining their educational policy have not greatly changed since 1881, but their brevity makes it possible for the teachers to take individual action on their own initiative at least as regards general management. The teachers thus find themselves working in an atmosphere that is both authoritarian and liberal.

Nursery schools in France admit children from two to six years of age. The public has a great respect for them; attendance at a nursery school is thought to be of crucial importance for a child's academic future, and in 1975 almost all children aged between four and six are attending nursery school.

In consequence a sort of self-satisfaction has been developing within the institution for many years now, and this no doubt curbs any aspirations it might have to profound changes, tending to isolate it from the other stages of the educational system, where the need for reform affecting structures, content, attitudes and approaches is felt much more keenly as a result of the "school explosion". Paradoxically, then, the nursery school is a place where spontaneous, intuitive and "wild-cat" research seems to be permitted, even encouraged, but where there is an underlying resistance to change.

The Service de la recherche éducationnelle au niveau pré-scolaire (Pre-school Educational Research Department) of the Institut National de Recherche et de Documentation Pédagogiques (National Institute of Educational Research and Documentation) was founded in 1967. Now, when there are plans for reforms of structure and content leading to a change of emphasis in the objectives of pre-school establishments, the Department, which aspires to produce profound changes and innovative attitudes, is kept at a distance by the bodies discussing the problem and taking the decisions. The system and the teachers themselves react badly to the various aspects of educational research. This is, perhaps, particularly true of the pre-school level where research, a relative late-comer, is developing a new dynamism and is often met by a wide variety of incomprehension and opposition. In a fairly recent study, "Educational research policy in European countries - 1973 Survey", published by the Council of Europe, Louis Legrand analysed the almost marginal character of our activities. The trend has only been accentuated since 1973.

II. GENERAL INFORMATION ON PRE-SCHOOL ESTABLISHMENTS

THE INSTITUTIONS

In France, there are three kinds of institution for children of pre-school age:

- Day nurseries (crèches): These admit children up to the age of three years and are run by the Ministry of Health.

- Kindergartens (jardins d'enfants): These are few in number and are run in a wide variety of establishment (lycées, universities, educational sections of social schools, Montessori schools, private schools). Training curricula for kindergarten teachers have to be approved by the Ministry of Health; training lasts two years and is of a purely professional nature. Kindergartens admit children aged from three to six years.

- Nursery schools (écoles maternelles): These admit children aged from two to six years. They are an integral part of the French education system. "Nursery schools are initial education establishments where children of both sexes jointly receive such care as their physical, moral and intellectual development calls for" (Decree of 18 January 1887). In the original legislation they were designated as the basis of the state education system. Primary education is "given in the first place in nursery schools and infant classes" (Organic Act of 3 October 1886). Although they are state primary schools they remain optional. Being non-compulsory schools, they are an anomaly in the school system: under the Act of March 1882, schooling was made compulsory for children aged from six to thirteen years.

Comment

In municipalities whose populations are too small to justify the opening of a nursery school (as a rule municipalities with less than 2,000 inhabitants, of whom 1,200 live in the centre), one or more infant classes are attached to elementary schools, more often than not to the girls' school. This applies particularly to rural municipalities.

In rural schools with a single class, the teacher can place children aged five years and those aged over six years together in a preparatory section.

THE "NATIONAL NETWORK" OF NURSERY SCHOOLS AND CLASSES: STATISTICS OF THE FRENCH MINISTRY OF EDUCATION

Academic year 1972-73 - Number of schools:

10,545 state nursery schools
295 private nursery schools

- Number of nursery classes

41,554 state nursery classes
730 private nursery classes

- Number of infant classes

6,816 classes attached to a state elementary school
7 private classes

Number of pupils

Over 2 million children attend state nursery schools at present.

1970-71: 1,890,000
1971-72: 1,971,500

The steady growth in the number of pupils is continuing but at a slightly slower rate than in the years preceding 1968.

1960 - 61	1965 - 66	1970 - 71	1971 - 72
1,178,000	1,507,000	1,890,000	1,971,500

(Statistics of the Ministry of Education)

These global figures hide disparities between the north and the south of the country and between rural communities and towns.

Today children of all social classes attend nursery school. This is true of children aged five years, but probably less so of children aged from two to four years. In the following table, the school attendance rate for children aged from two to five years shows an upward trend for each age-group represented. It would seem to have been the case since 1970 that almost all children aged five attend a state nursery school or infant class.

Years / Age	1959-60	1969-70	1972-73
2 years	9.4	14.6	22
3 "	34.0	55.0	72
4 "	60.3	83.8	93
5 "	90.3	100	100

cf. Bulletin of CRESAS (Centre de recherche de l'éducation spécialisée et de l'adaptation sociale), No. 9 - 1973, Eric Plaisance and Olga Baudelot

The increase in pupil numbers is mainly apparent in nursery classes; in infant classes and sections the number of pupils remains relatively stable.

During the 1971-72 academic year - according to the same Ministry of Education statistics - girls made up 48.7%, i.e. a percentage slightly below that recorded for the total population aged two to five years. (In the private sector, the percentage was 50.4.)

The following table relates solely to the state sector:

Year of birth	Age at 1.1.72	Nursery classes		Infant classes and sections		Corresponding number of pupils		
		Boys %	Girls %	Boys %	Girls %	Boys	Girls	Boys + Girls
1969	2 years	7.9	8.1	3.8	4.0	70,894	69,367	140,261
1968	3 years	25.7	25.8	15.2	15.5	237,807	227,586	465,393
1967	4 years	32.7	32.6	31.8	32.4	329,163	312,742	641,905
1966	5 years	33.4	33.3	47.3	46.7	366,923	346,363	713,286
1965	6 years	0.03	0.2	1.9	1.4	6,123	4,529	10,652
		100	100	100	100			

NURSERY SCHOOLTEACHERS - SITUATION

Nursery schoolteachers progressively obtained the same status as elementary school teachers. By 1921 complete parity had been reached. The assimilation covers salaries, weekly working hours, holidays, special benefits (housing, retirement pensions, holiday arrangements, etc.). Nursery schoolteachers are paid by the state and are under the authority of the Ministry of Education. They have the same qualifications and undergo the same training as elementary schoolteachers. They still form a purely female category.

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The headmistress of a nursery school must have taught in a nursery school for at least five years and furnished evidence of her competence. In conjunction with the area inspectress, she helps to provide in-service and specialist training for the mistresses in her school. She administers her school in conjunction with the local authority, constituting an important cog in the highly hierarchical administrative system of which she forms part.

Breakdown of the various categories of teaching staff in the public sector

Category	1971 - 72	1972 - 73
Nursery school headmistresses	9,741	10,346
Nursery schoolmistresses	29,595	31,033
Infant class mistresses	7,190	7,291
Total	46,526	48,670

RECRUITMENT AND TRAINING OF NURSERY SCHOOLMISTRESSES

Initial training

This is given in teacher training colleges. After obtaining the baccalauréat, which is compulsory for all student mistresses, the latter undergo two years' professional training comprising both theoretical studies and practical work.

The competitive examination for entry to teacher training colleges is sat at baccalauréat level. The theoretical studies cover teaching theory and methods. The practical training is undergone in both nursery schools and elementary schools since successful students can teach in either kind of school. The final year of training is devoted to a course in the exercise of responsibility.

With a view to a reform of initial training, university standard is now required.

Continuous training

This is arranged by Ministry of Education inspectors and takes the form of study days, lectures, specialist courses, visits to schools, etc. Many inspectresses run a study circle or arrange courses in conjunction with teacher training colleges, university teachers or national educational research departments (Institut National de Recherche et de Documentation Pédagogiques).

Training of supply teachers

The number of teachers graduating from teacher training colleges falls far short of requirements in most densely populated areas. Under a supplementary recruitment system, supply of teachers possessing the baccalauréat can be integrated progressively.

Such teachers receive some training at teacher training colleges and take part in the continuous training activities arranged by the area inspectress and educational adviser.

Despite the efforts made to train supply teachers, all nursery schoolmistresses agree that the training is deficient from both the theoretical and the practical standpoint.

III. BASIC DOCTRINE OF PRE-SCHOOL EDUCATION

BACKGROUND

A diachronic study seems necessary for understanding the educational "models" which influence the present-day situation and for defining the implicit and explicit objectives of the French pre-school system as it develops.

We will therefore consider three major periods of this development:

1826 - 1879: the period of the "salles d'asile",

1877 - 1918: the period of the founding and building of the "écoles maternelles" (nursery schools), associated with the well-known pioneer, Pauline Kergomard,

1918 - 1968: the inter-war period and its aftermath, when the nursery school became exposed to the powerful international movement in favour of child welfare and to the various trends which brought about a reform of teaching methods.

This will perhaps enable us to see more clearly wherein reside the originality, strength and weaknesses of the present system from the standpoint of its objectives as well as its realities.

THE "SALLES D'ASILE" PERIOD (1826-1879)

With its infant schools, England, as early as 1816, furnished the whole of Europe with models for initial-education establishments which in 1826 came to be given the name of "salles d'asile" in France.

These establishments were open to poor, socially disadvantaged children who were the first victims of the pauperism of the time and of the economic changes which took their mothers away from the home. "Salles d'asile were charitable establishments to which children of both sexes could be admitted up to the age of six for the purpose of receiving the motherly supervision and initial education called for by their age" (Section 1 of the Royal Order of 22 December 1837).

Even then, it seems, the sponsors had in mind, over and above immediate and urgent needs, other broader, more ambitious and more fundamental objectives. In France, and indeed throughout Europe - in England, Scotland, Italy, Switzerland - the right to initial education was at that time being demanded for everyone, without distinction. "Anyone who has observed the condition of the small children of poor people will have felt a tug at his heartstrings; and anyone who has given thought to the attitude of rich people will have realized what pitfalls, difficulties and impediments it entails for future education."

(Extract from the report of the sponsors of the Salles d'Asile, 1835)

The Royal Order of 1837 under which the salles d'asile were assimilated to "infant schools" is proof of the positive results of a noble fight for these institutions which, in the minds of the pioneers, represented "the first stage of child upbringing" and should be regarded as "the basis of primary education".

A study of contemporary records, in conjunction with official texts, gives the impression that the cause of initial education had been won despite all the prejudice against the "natural right" of children of both sexes to be educated, stimulated and instructed from their earliest years. From that time onwards, infant schools assumed an irreversible twofold mission: their social role and their cultural and educational mission were never again dissociated. Despite the weight of reality, the slowness of events and the various crises, the trajectory was never revised. From 1837 right up to the present day infant schools have remained, as regards their most obvious objectives, instruments of social justice and education.

To be sure, the facts subsequently belied this first noble affirmation. For a long time, the salles d'asile were "homes" for poor children. It was the children of the needy classes, particularly of working-class families, who were admitted to them. Middle-class families, for their part, were reluctant to entrust their children to a salle d'asile of which their class-consciousness made them scornful.

In their study: "L'évolution des objectifs de l'école maternelle" (Cahier du CRESAS, No. 9, 1973), Eric Plaisance and Olga Baudelot reveal clearly the disparity between theory and harsh reality: "Behind the ideas of philanthropy, disinterested aid and charity upheld by the defenders of the salles d'asile, one must be able to recognize the economic and social mechanisms which these ideas

themselves attempted to match." By offering protection to the children of the working classes, the salles d'asile enabled the poor to devote themselves more freely to the work expected of them "in the national interest". They thus fostered the social system and the exploitation of woman's work. Plaisance and Baudelot believe that in the laws and regulations of the years 1845 and 1846 as well as in the writings of the then Minister of Education, Salvandy, can be detected a desire to enslave the working classes. Even in the educational objectives, the authors discern a wish to guide the children of the poor "along the path of greatest submission and passivity". They feel justified in asserting that the salle d'asile was in the nature of "an instrument of social domination, an institution at the service of the ruling classes who sought to base their power on more solid foundations and make it easier to keep others in a subordinate condition." There are many official texts that lend weight to this thesis, which has the merit of denouncing the ambiguities and contradictions surrounding the very objectives of the institution. The immediate and essential role of the salles d'asiles thus seems to have been considerably diminished: "they were intended to be an answer to the problems posed by the working-class woman." The practices in force in the salle d'asiles, which were described as early as 1880, also tend to confirm the validity of this thesis.

We nevertheless consider that the wording of the Royal Order of 22 December 1837 introduced the twofold vector of the social and educational function of infant schools which thus embodied the seeds of the institution's whole future development. During the period which followed, Pauline Kergomard did no more than to take up this twofold declaration of objectives and elaborate and modulate it. A careful perusal of the journal of the salles d'asile, "L'Ami de l'Enfance", published regularly from 1835 onwards, leads us to think that, despite a gradual but profound deterioration in the situation owing to social and political upheavals, the twofold function of the salles d'asile was clearly perceived. As soon as the Act recognizing and institutionalizing these establishments had been promulgated, they reacted against a definition calculated to confine them to the inglorious fate of charitable institutions or of "public relief institutions", and forcefully proclaimed their educational and instructional function. The journal of the salles d'asile (INRDP Library) continually published reasoned analyses and extracts from specialist works as well as the results of open correspondence with departments and foreign countries, particularly England, the pioneer in this field. This body of references has convinced us that a struggle to assert everyone's right to initial education was in progress. The salles d'asile were also schools, "and we continue to regard this as one of their undeniable features". At the same time, a similar demand was made by Batelle, an administrator of the Hospices de Paris, in his writings: "I maintain that we begin children's education far too late."

The desire to link these institutions, i.e. the first level of education, to state primary (elementary) schools, which had also just been granted a statute (1833-36), confirms us in our view. To develop their objectives and survive, the salles d'asile had to be organically attached to the other levels of education. They wished to be schools in the full sense of the term so as to escape the truncated fate of a charitable institution. The schools must combine, join forces and give one another support, as Lord Brougham said in a speech in the House of Lords (21 May 1835) - an assertion which was reproduced in "L'Ami de l'Enfance" with a long commentary and words of editorial approval.

From 1835 to 1879 the inglorious but tenacious struggle for the organization of these schools, which sought to justify their existence, continued. The Revolution of 1848, the impetus provided by Mrs. Pape-Carpentié and the hard-won Decree of 22 March 1855 revived the confidence of the institution's sponsors. In 1878 there were 4,446 classes catering for 585,992 children. Infant schools really worthy of the name were, however, few and far between.

This was the inheritance which Pauline Kergomard received from the hands of the Minister of Education, Jules Ferry, on 1 May 1879. It was a daunting inheritance consisting of often thwarted ideals and conditions of poverty and need, as well as some little-known achievements which prejudice and impecuniosity had reduced to the sorry status of charitable institutions. The passion with which the new "inspectrice générale des salles d'asile" endeavoured to wrest these achievements from such a wretched fate can thus be appreciated.

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THE "ECOLES MATERNELLES" AND PAULINE KERGOMARD (1879-1918)

In agreement with the democratic and secular-minded Ministry of Jules Ferry, Pauline Kergomard framed the Decree of 2 August 1881 whereby the objectives, structures and methods of infant schools were redefined. She expunged from the organic texts any words that conflicted with her deepest convictions or resulted in the salles d'asile being classified as charitable establishments. They were now given the name of "écoles maternelles" (nursery schools).

Paradoxically, it was at the very moment when she "rechristened" them to wrest them from their fate of asylums for the poor and restore them to their function of schools that, being aware of the danger of narrow, premature and unnatural schooling, she modulated her thinking: "The nursery school is not a school in the ordinary sense of the word." For close on a hundred years this paradox has ruled over the destiny of French nursery schools. They had been confronted with the need to define themselves and set themselves apart both from the salles d'asile and from the primary schools, without renouncing the fundamental duality of their objectives but tenaciously seeking to strike the difficult balance between the two aspects of their function, viz. child welfare and education, while ensuring continuity with the ideals of the founders of the salles d'asile.

The successive organic decrees, those of 2 August 1881, 30 October 1886 and 18 January 1887, gave priority to the educational function over the practices of the salles d'asile and emphasized the primacy of education over the practices and objectives of primary schools, centered as they were on the acquisition of knowledge and on learning. "Nursery schools are initial-education establishments where children of both sexes jointly receive such care as their physical, moral and intellectual development calls for."

From 1908 onwards, however, the nursery school's function of providing care and protection came to be reaffirmed, in accordance with the circular of 1905, on the ground that it had gradually departed from its objectives and allowed itself to be dominated by the primary school. The nursery school's two functions, that of providing assistance and that of providing education, were thus maintained.

The curricula drawn up in 1882, later incorporated in those of 1887 and 1921, form part of a single pattern dating back to the outline of 1835, where the educational function and the social mission are never dissociated. It can be said that at no time since the second half of the 19th century have the explicit objectives changed, or at least they have never been altered deliberately.

Some practical changes may have occurred, it is by no means sure that the fundamental doctrine has ever varied. The successive organic texts constitute a monolithic whole which even today determines and fashions many attitudes and habits of nursery school staff. Their immutability has without a doubt affected the institution's development. The agents of change must be sought outside the official texts, namely in the personality of Pauline Kergomard, her intuitions, the nobility of her ideas and, above all, her passion for liberty.

Paul Lapie tells us that the very idea of a curriculum made Pauline Kergomard smile. The second paradox, which derives from the absolute trust the founders of the French state school had in her, is that, side by side with their work, impregnated as it was with the positivistic and scientistic spirit of the time, she succeeded in developing radically different approaches, inspired directly and in the most faithful and fervent manner by the doctrine of Rousseau. The connection is obvious. And it was in this first divergence that lay the split, which subsequently became wider, between a positivistically-based primary school and a resolutely "Rousseauesque" nursery school. The two types of school embody radically different models and roles. While the primary school has its eyes on "a certain kind of adult", the nursery school concentrates on "the child itself". The former's dogma of authoritarian education contrasts with the latter's dogma of spontaneity; on the one hand there is the dogma of effort, on the other the dogma of interest and motivation. Whereas the primary school offers immediate adaptation to a stable structure, i.e. the economic, social and political environment as a whole, the nursery offers the inculcation of new attitudes capable of creating new structures and new values. Pauline Kergomard herself advocated a discovery-oriented form of

education and rejected the need to acquire and accumulate knowledge liable to stifle the initiative, curiosity and dynamism of young children: "A child's education should derive from the child himself; it must not on any account be imposed on him." "A child is not mere school material."

Thus, after being officially integrated with the school system, the nursery school firmly eschewed an academic function. It did not consider its task to be to provide young children with cultural tools (distinction between instruction and upbringing). It concentrated on the functions whereby children are taught not techniques but values. Pauline Kergomard aimed at educating the human being as against transmitting knowledge. A child should not merely learn but "learn to learn", and here we again have Rousseau's distinction between "negative education" and education that "awakens" a child. This is without doubt the message of Pauline Kergomard.

She was neither a philosopher nor a psychologist and cannot therefore be compared with educational theoreticians or technicians. Instead, she possessed intuition and a gift for patient research: "I have not yet found what I am looking for; I am still seeking ... Sometimes I think I have found it ...". She subjected any undertaking to the test of experience and common-sense. She attempted to define an educational method and to defend it against any hide-bound attitude. What she wanted was a "method of reason, common sense and independence". In her writings can be found the themes and sometimes even the tone of Rousseau's passionate rumination. She too considered "the child within the child", in his own fullness and with his natural momentum of growth: "We know nothing about children", ... we have to discover what they are, and this presupposes "a constant study of their needs, abilities and aspirations and a persevering effort to provide them with an environment where their needs will be satisfied, their abilities developed and their aspirations realized."

Pauline Kergomard readily admitted her debts to other innovators, blithely grafting on to her own project, which kept its flexibility, anything that could be effectively borrowed from other doctrines. But she irrevocably rejected everything that resembled a codified system and conflicted with her sense of moderation.

In Froebel, who all too often deviated from the paths of observation and experimentation, she seemed to fear the nebulousness of the metaphysical theories, the abstract geometry of the material and closedness of the system. On the other hand, while remaining faithful to Rousseau, she adopted Froebel's major guiding principles and integrated them in her own doctrine: respect for the spontaneity of the child, education through joy which enables effort to be fully effective. Like him, she proclaimed the value of play for the maturation of functions, the fostering of functional intelligence and the development of sociability. It is the very echo of Froebel's voice which can be perceived in the following words of Pauline Kergomard: "Play is a child's work, his trade, his life".

Being closer still to Maria Montessori (both were moved by the same spirit of freedom), Pauline Kergomard, again in accordance with the tradition of Rousseau and the ideas of the French doctors Itard and Seguin, shared her belief in education directly based on a psychological study of a child's development, its phases and its laws. Although they expressed their ideas differently, both constantly bore in mind the "cardinal precept" of a natural education: viz. feeding the dynamic momentum of growth without distorting the process or reversing the order of the phases. What was intuition in one became a search for a system and for tried and tested educational material in the other. The free-activity method recommended by Pauline Kergomard conflicted with such a system. Perhaps she sensed that in the observation of the development of young children "the sublest difference is often of decisive importance". She thus turned instinctively to the life-giving spirit, shunning the stultifying effect of systems. But her prescience of children should not be confused with the "science of children" to which she aspired: "The love of children, the true and only love worthy of the name, is first and foremost a feeling, as no one denies; but it is also a science, as very few people seem to realize".

Pauline Kergomard's method always retained its freedom of approach, for in each situation she sought to synthesize the question, the hypothesis and the evidence, always returning to the child, "the living book". This is probably the most precious and authentic part of the inheritance she left us. She had an innate sense of research.

We are not afraid to assert that the causes of the institution's changes and movements lie in the Rousseauesque objectives of Pauline Kergomard's doctrine and above all in that freedom of approach and research which she succeeded in communicating and propagating, enthusiastically prompting a will for "continuous collective creativity".

After inheriting the salles d'asile and the doctrine of the earliest pioneers, she gave a new image to infant schools: their social and their educational roles remained indissolubly linked but the educational objectives were differentiated and remodelled according to a new child whose steriotype still hovers vaguely in our minds - a child which resembled Emile and who demanded to be free and happy, a child who was impatient to "be" and who aroused in adults both a desire to provide protection and the most extravagant hopes.

Beneath this new image there sometimes reappeared, like a water-mark, the image of a poor child of the salles d'asile, a small submissive, passive face which still aroused more pity than hope, and Plaisance and Baudelot are right in saying that at that time "the child-minding/schooling antithesis had not yet been superseded" in reality or indeed in people's minds. By likening themselves to "an enlarged family" and laying emphasis on the mother image, the infant schools reaffirmed their welfare role and still harboured ideas of "social moralization". And even today, many nursery schoolteachers regard themselves as "counsellors" and aspire to inform the more underprivileged families about their obligations. Their very desire to replace the defaulting mother is reminiscent of the charitable function of the earliest salles d'asile. This oscillation impedes the development of the concept of educational equity. It helps us to realize that "the distinction between justice and charity is a false one invented by us."

THE INTER-WAR PERIOD AND ITS AFTERMATH (1918-68)

In one of his recent studies, Maurice Debesse refers to the dark shadow which the first and second world wars cast on the "century of the child", as though children had been "dispossessed of their century by the wars which stained it with blood and by the upheavals of the atomic and space age". In the latter part of the 20th century childhood no longer appears as a figurehead turned towards the future; "it has been hidden from our view by other figures, some of them ominous".

It is true that a dark shadow covers the radiant face of Emile and yet, during the 50 years of this third development phase, the nursery school still seemed to be faithful, as it were, to the image bequeathed by Pauline Kergomard and to be unable to detach itself from it.

This period was characterized by the onset of the worldwide reform movement in the field of educational methods. As far back as 1900, Ferdinand Buisson, inspired by the American Child's Movement, founded the first level of the French School of Psychology, the "Société Libre pour l'Etude de l'Enfant", which was later presided over by Alfred Binet. At the 1962 national congress in Nice, H. Sourgen, inspector-general of nursery schools, drew a vivid picture of those years when the teacher training colleges and nursery schools were opened to the new currents of sociology, psychology and experimental pedagogy. She referred to the enthusiasm and fervour of that period, when the Minister, Lapie, authorized the various experiments suggested by the work of foreign educationalists (Montessori, Decroly, Ferrière, the Geneva school, Dewey, etc.) and nursery schools rushed towards the future, to the gratification of all who were working in them. "It seems", she added, "that it was then that emerged the spirit of free co-operation which turned the nursery school into a continuous collective creation to which everyone made his contribution."

But if one endeavours to identify the contributions and other factors which at that time influenced the development of nursery schools, one sees clearly that they operated only within the field opened up by Pauline Kergomard. One might say that they had been sifted so as to eliminate anything that did not serve to strengthen and amplify the pioneer's intuitions. It was no doubt from Decroly and Dewey that nursery schools derived their "deepening" value during that period.

The dynamic aspects of Decroly's doctrine, its flexibility and openness, were in tune with the spirit underlying the French method proposed by P. Kergomard: the formula of school for life through life evoked immediate responses in France. The studying of a child's mental development in all its

aspects, the typical Decrolyan method whereby, starting with complex situations, a child is progressively initiated in differentiation and abstraction which help him to understand simple and logical adult concepts, matched the expectations of the educational approach introduced by Pauline Kermogard, which demanded non-artificial everyday situations for children and made action the basis of education.

The obvious filiation of the ideas of Decroly and those of John Dewey can easily be perceived, ideas which are in strict conformity with the French method. Dewey upheld the same decisive view that education was not a preparation for life but life itself. The educator's role therefore consisted in establishing continuity between school and life. Moreover, Dewey's coupling of the principle of interest with that of effort in a living educational system, his rejection of any distinction between intellectual education and manual education, his conception of play and free activity where the environment is no longer a factor for constraint but a condition of freedom, his conception of a democratic school where creative abilities are freely stimulated, his refusal to educate a child for a given social condition - all these ideas and attitudes which permeate the work of the philosopher of education fell on a ground prepared by the intuitive thinking of Pauline Kergomard. They influenced the objectives of nursery schools, even if they did not cause an immediate and radical change in the practices and attitudes of nursery schoolteachers. Change is the essence of this approach, where one can easily discern the optimism of Rousseau, his conviction that "a child is entitled to its childhood", his absolute trust in education. Pauline Kergomard added to this her no less absolute confidence in "an educational school".

During this third period whose salient features we have just outlined briefly, the radiant face of Emile replaced that of the "little pauper" of the salle d'asile. The educational goal of the nursery school now eclipsed its social role as a welfare establishment. "The nursery school must be primarily an educational establishment and only secondarily a social institution", as the president and founder of the World Organization for Early Childhood Education, Suzanne Herpanière-Lebert, has firmly declared. At the same time, nursery schoolteachers succeeded in escaping from the outdated "intelligent and devoted mother" model and became technicians, responsible for emancipating young children.

But the nursery school is being regarded more and more, particularly since 1968, as the essential basis of the education system, "the necessary first level of a child's education". (These are the very terms of the declarations made by the pioneers of 1830.) We should note this new shift towards objectives reflecting a demand for responsibility in the development of ability to use symbols, the introduction of "early learning", the development of functional intelligence and logic (through a close relationship with elementary schools) and a function of preventing scholastic failures.

Lastly, the nursery school has come to be increasingly regarded as an instrument of "social justice" and "educational opportunity". These terms, which appear more and more often in the specialized educational press and in ministerial statements, are a sign of a new awareness of new objectives on whose ambiguity we will focus our attention in the next section of our study. The fact that new curricula and new recommendations and instructions are expected confirms the adoption of differentiated objectives.

Logically, it is another image of the child which should be superimposed on that of Rousseau's beloved Emile, of which nursery schools have dreamed so long. But more often than not this new image eludes our grasp. It is changeable and vague, appearing only in bits and pieces - the result of the excessively slow gestation of our history.

* * *

The period 1943-68 was marked by an influx of children from all social classes, and particularly of children aged between four and six. This trend was accentuated between 1968 and 1975, and there is a growing tendency for the families of children from privileged social backgrounds to regard attendance at nursery school as a right. This new state of affairs has certainly brought about a change in the aims of the French pre-school system: there has been a shift of emphasis towards a greater insistence on the institution's responsibilities in the field of preparing children for the next stage of their education.

We have mentioned this recent shift of emphasis, which is experienced and felt to a varying degree by the system's schoolmistresses and teaching experts, and included the new tensions created in February 1975 by Mr. Haby's "proposals" for "modernizing the French education system" in our attempt to analyse and display in visual terms in a summary table the successive variations that have affected the aims of the pre-school microsystem from the chronological point of view we have adopted in this study. We feel that it is worth including this at the end of the chapter for the benefit of our colleagues in other European countries, who will give it a critical, "plural" reading or, in other words, a "counter-reading".

FRENCH PRE-SCHOOL SYSTEM

INRDP — CHANGES IN EXPLICIT OBJECTIVES — February 1975

Marguerite LAURENT-DELCHET

	Objective A: Protection "Social" function	Objective B: Education Educational function	Objective C: Basis of school system Function to integrate
"Salles d'Asile" 1829-1879	++++	0	+++
Pauline KERGOMARD Beginnings of the "Ecole Maternelle" 1879-1918	+++	++++	0
BETWEEN THE WARS 1918-1948	+++	++++	0
1948-1968	+	++++	++
Mr. HABY's proposed reforms 1975	+++	0	++++

IV. DESCRIPTION OF EVALUATION METHODS

CHARACTERISTICS OF THE KIND OF RESEARCH IN WHICH WE ARE ENGAGED

First distinctive feature: applied research

Our constant concern is to gear research to practice. Our particular practical aim is to so improve the education system in response to needs, specific problems, specific objectives and a clearly-defined goal.

Second distinctive feature: convergent research

Our teams are dealing with a set of complementary problems. Whatever the field of investigation, they endeavour to work out common ground. The dividing up of research at pre-elementary level (INRDP) into different sectors is justified only on methodological and operational grounds, which are always arbitrary. The organizational diagram of our research as a whole (cf. diagram No. 1), which is essentially evolutionary and therefore open-ended, reveals the connections and overlappings between the sectors under study. This causes the teams to work in constant consultation with one another and on a basis of de facto interdisciplinarity. Being governed by a common programme, they devise common tools and ensure convergency between their observations, the results of their field investigations and experiments and the theoretical contributions of any specialists they consult.

I.N.R.D.P. : service des études et recherches pédagogiques
DIVISION PRE-ELEMENTAIRE

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DIVISION PRE-ELEM.

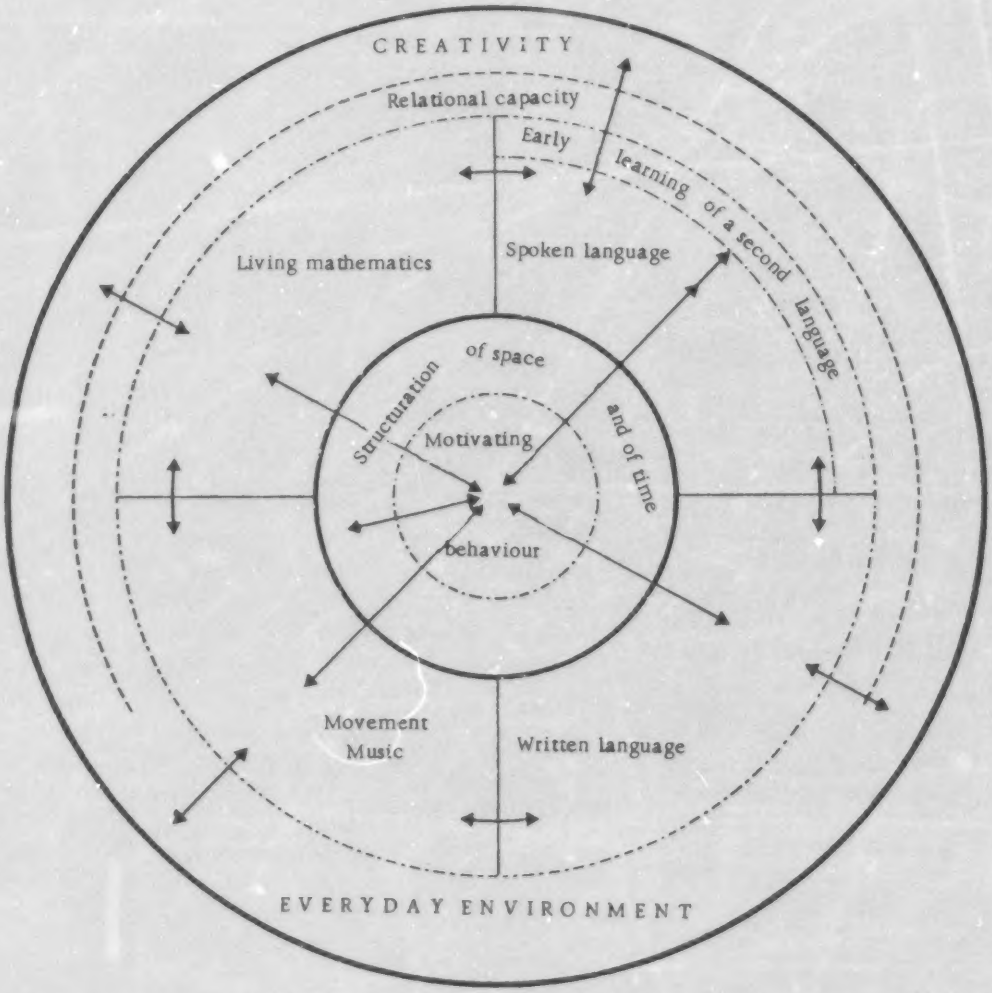

diagramme des recherches 1971.72.

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M. LAURENT-DELCHET, 1971

Third distinctive feature: field research

The field is the "school", the very place where the educational action takes place. Various teachers voluntarily play a direct and full part in the research, arranging themselves in educational research teams. Researchers and specialists provide these teams at their places of work with advice and methodological support in the light of the practical problems raised by the teachers themselves.

- A common endeavour is made to circumscribe the problem in its manifold dimensions.
- The problem is analysed from several aspects, corresponding to the varied viewpoints of the different members of the interdisciplinary team.
- The team assembles as many objective data as it can on the problem under study.
- The interdisciplinary research team endeavours to work out a guiding hypothesis and various hypotheses for solutions which are carefully adjusted when being tested in the field.
- The experimental plan which follows from the formulation of the hypotheses is prepared by the team itself under the responsibility of the researchers.
- Thanks to the control and evaluation instruments simultaneously devised by the team for the purpose of methodological evaluation, it is possible, through feedback, for:
  - . the objectives to be progressively adjusted as well as graded;
  - . the educational strategy and its modulations to be adjusted progressively (cf. Diagram No. 2 Outline approach and Diagram No. 3 Operational diagram)

Diagram No. 2

Outline approach

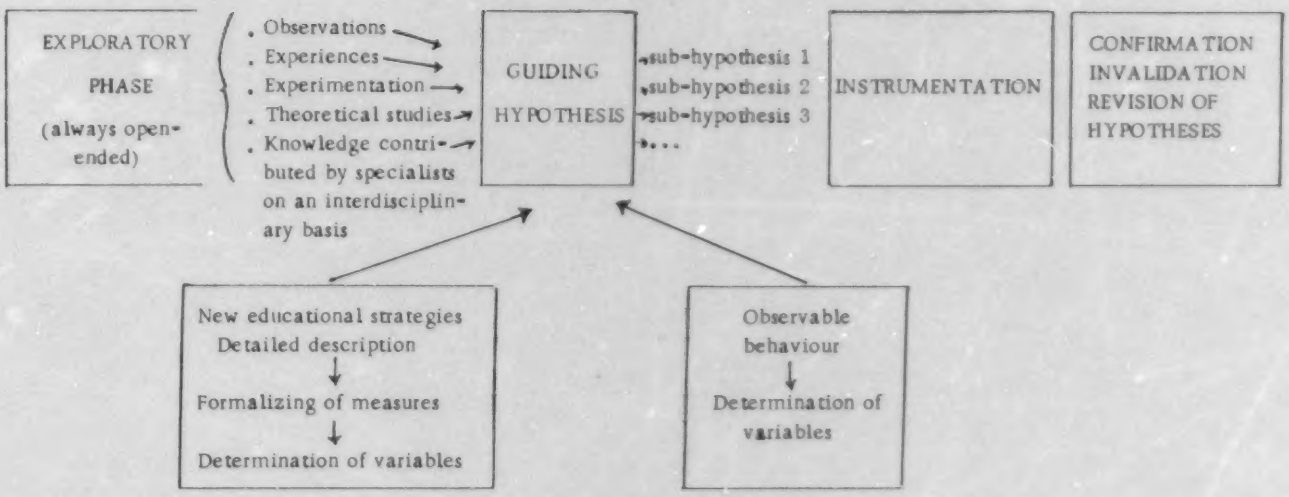
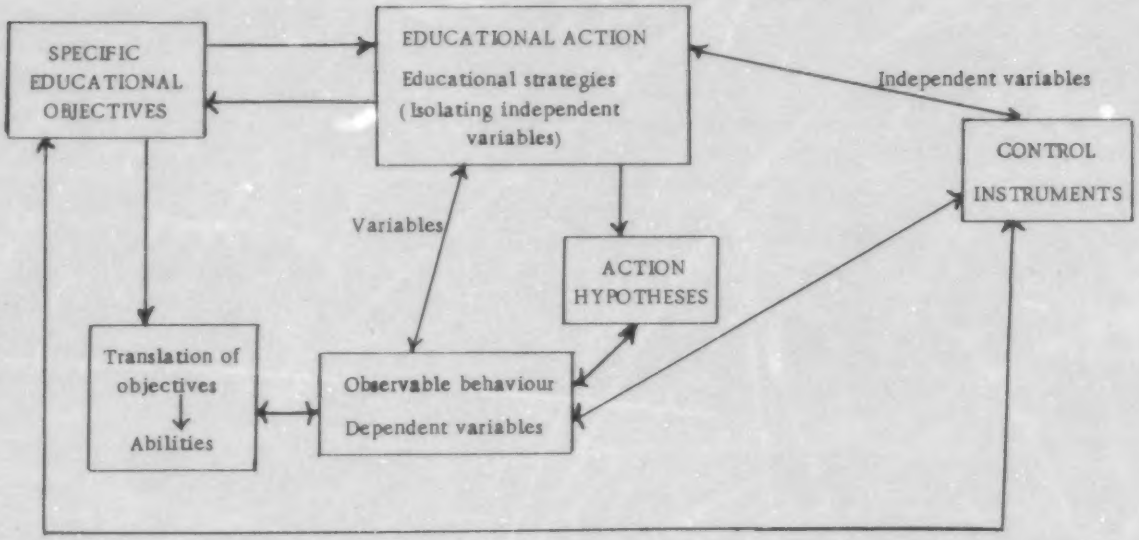


DIAGRAM NO. 3

OPERATIONAL DIAGRAM



Fourth distinctive feature: research innovation

The various kinds of field operation being carried out under our auspices have been given the paradoxical name of "research - innovation", devised by Louis Legrand, director of the research service of the INRDP. The innovation concerned is "an innovation which is aware of itself, clearly defines its objectives and endeavours to rationalize its ways and means and verify its results."

THE INNOVATORY APPROACH

Innovating: "The root of innovation is dissatisfaction" (Louis Legrand). Innovating means first of all saying "No" and then launching a new experiment based on this refusal. It always involves a break with previous practices, customs and models. As a matter of principle, research-innovation is always non-conformist.

Research-innovation is above all productive during the first phase of its genesis which leads to the conception and tentative experimentation of an "innovation" regarded as a hypothesis for a solution or an answer to a given problem: more often than not it is a collective decision and task in which volunteer teachers, scientific advisers and researchers (interdisciplinary team) take part. This productive research phase does carry scientific guarantees but it remains somewhat rough-and-ready since it entails tests, adjustments and actions by the educationalists who draw up and revise new strategies which are applied in their fields of experiment. Our research therefore consists of "phases of productive organisation without which objective research would have no purpose".

"We believe and maintain that all fruitful educational research must include a relatively long innovation stage which must command our attention" (Louis Legrand). "Before the effectiveness of an educational strategy comes to be gauged, it must be devised."

Assessing an innovation after its introduction: Assessing an innovation means ascertaining in what way it differs from, or provides a substitute for, the reality challenged by it. Does it relate to content, processes, methods, techniques or tools? Does it introduce changes in the attitude and behaviour of educators or educational teams? Or in their training? Does it introduce new relationships in educational strategy? Is its purpose to change the structures of the institution? etc. It also means

ascertaining at what level it is being introduced: in a class, a school, a network or the country as a whole.

Describing an innovation: This means giving a precise, detailed and qualitative account of the innovation in all its complexity. The description should cover all the data assembled and all the details, without exception. Its main purpose is to "show". The detailed work which qualitative description entails is an essential phase of the process but does not suffice in itself.

Analysing an innovation: It does not suffice to describe an innovation. The experiment which the innovation entails must be transmissible and demonstrative, and for that purpose it must go beyond the limited context in which it is being carried out. It must be analysed, i.e. reduced to its bare essentials. Making a rational analysis of an innovation means adding an overall structure to the initial data furnished by the description. It also means revealing the relevant features of the innovation as such and eliminating any of them which are judged not to have any influence on its original coherence or its specific form of functioning (principle of relevance). Once an experiment has been reduced to its essential features in this way, it can be repeated or reproduced elsewhere (principle of replication). A system needs to be established for "promoting" it.

Structuring an innovation: It will be possible to speak of structuring an innovation thus analysed if the relevant features of the constituent parts revealed by analysis can be coherently related to one another:

- either hypothetically through "a priori" grading,
- or in the light of the initial results achieved in the fields where the skeleton's components will have been varied.

Replacing the qualitative by the quantitative aspect: The reality of an innovation can be determined only by verification. The testing of an innovation begins as soon as an effort is made to define the causal relationships between the innovation structures in operation and the influences that can be observed in the various situations of school life to which they are applied. This is still the data interpretation stage; but the existence of correlations does not necessarily indicate a causal relationship. To test an innovation it is necessary to:

- define the objectives in operational terms;
- establish working hypotheses;
- identify the variables: the independent variables are the parameters of change which characterize an innovation (principle of relevance) and the dependent variables are its effects;
- devise instruments of verification which match the innovation as closely as possible. "Effectiveness can be assessed only in relation to the objectives aimed at." (Louis Legrand)

(cf. Diagram No. 3.)

The successive phases of research-innovation: According to Louis Legrand, the successive phases of research-innovation are as follows:

1. Clear definition of the educational problem under study;
2. Operational definition of the objectives pursued;
3. Elaboration of the new method, content, etc. introduced by the innovation;
4. Corresponding elaboration of quantified instruments of verification;
5. Training of the teachers whose pupils are to be assessed;
6. Evaluation proper, which comprises:
   - a detailed description of the behaviour of the teachers;
   - a survey of the characteristics and performances of the pupils;

- the devising of data processing algorithms and computerization;
- the processing and interpreting of data.

RESEARCH-INNOVATION AND DEVELOPMENT

The research-innovation process whose main aspects have just been described must of course pave the way for possible development:

- the experimental fields form a network covering the various educational districts;
- they are linked to training centres (teacher training colleges) and university centres so as to ensure that they function on an interdisciplinary basis;
- Institut National de Recherche et de Documentation Pédagogiques is responsible for encouraging, co-ordinating and evaluating the research carried out throughout the network;
- the experimental fields serve as reference points and organizational centres. Any development measures decided on by the Minister should normally be based on these fields;
- similarly, an educational district or group of such districts should appoint a person to organize and co-ordinate research;
- regional inspectors should be associated with the research and development. This new function should be defined in close organic connection with the training and research centres.

"These are the institutional conditions which seem to us essential to the success of any lasting and far-reaching reform of our education system." Louis Legrand

(cf. Une méthode active pour l'école d'aujourd'hui. Ed. Delachaux Niestle, 1971)

V. EVALUATION OF PRE-SCHOOL EDUCATION IN GENERAL

As far as we know, no research has ever been done on this type of problem in France.

However, in 1973 the pre-elementary research unit of the Institut National de Recherche et de Documentation Pedagogiques proposed to the appropriate ministerial authorities a research programme with the limited objective of illustrating, at national level, the connection between attendance at nursery school and the need to repeat the first year of compulsory school attendance. We compiled particulars of the method and estimated cost of this macroscopic research project, but it seems to have been taken up by the Ministry, which has entrusted it to a private organization in the educational district of Lille. By March 1975, we have still had no news of how our proposal had been followed up.

In our opinion, this type of research programme must be part of a long-term plan. The results would provide us with the basis of a full-scale research programme and enable us to clarify the sociological, psychological and educational factors of a functional educational strategy at elementary level. Seen as a continuous process, the strategy would meet the fundamental objective of "true democratization". It would help to eliminate the "discrepancies" which we can see between children of the same age, whether they are due to social factors or each child's personal history. The programme would also entail an analysis of the "models" endued with value and imposed by school and family as early as the pre-elementary stage. Its objective is to understand and reduce the machinery that leads to academic failure even at nursery school. In the initial operational phase our aim would be:

1. To catalogue and describe the innovative teaching processes which appear to give positive results as regards the development of language, understanding, creativity and self-reliance. This work is based on previous field research projects which form our special innovation programme.

2. To analyse the effects of one innovation in each of the areas where it is introduced.

3. To devise an instrument for evaluating the cultural and human level of the families of children making up the sample. At the moment, we have a multi-faceted instrument which has proved very costly to apply. It must be made more manageable, while remaining discriminating and reliable enough to meet our evaluation objectives, which are a precise knowledge of the child in its human and family environment and the analysis of individual differences.

We also draw attention to the research currently being done by Jean Foucambert, head of the INRDP elementary unit, which is entitled "New forms of organization in elementary schools", and also aims to reduce academic failure. This full-scale project is being applied in around 60 elementary schools "and, in most cases, the higher classes of the corresponding nursery schools (children aged from five to six), representing a total of about 700 classes and 18,000 children between five and twelve". The project is in two stages: "The first consists in describing each testing-ground, its history, organization, problems and results, in order to gain a full insight into it; in this way, a large amount of information, which may contribute to a practical phase, will become available; it will also shed light on one area that is often glossed over by educational researchers in their anxiety to compare results: that of the problems accompanying the development of an innovation. The observation unit will be the school.

The aim of the second is to process the standardized description data obtained by using objective instruments applicable to all the testing-grounds. The observation unit will be the pupil, who will be followed up between the ages of five and eleven (top class of nursery school - top class of junior school). The description will comprise four sections:

- the child: its biological, psychological and academic past and present;
- the child: its family background and way of life;
- the child: its educational environment;
- the child and its cognitive and non-cognitive behavioural patterns.

The principle is thus to obtain the maximum possible data on each child by describing it with reference to a very large number of variables (between 500 and 1500).

Statistical processing must make it possible to compare and analyse the data as a whole in such a way as to illustrate patterns of elements and factors which we hope will help us to see how things happen and particularly to understand the structure of the facts connected with success and failure. Later statistical processing will depend on the hypotheses which may be made in the light of thorough analysis of all the data: correspondence, regression, segmentation analyses, etc."

VI. EVALUATION OF SPECIAL PROGRAMMES

In order to check the outcome of the educational innovations introduced in our testing-grounds, it is, of course, necessary to use a variety of methods adapted to their type, scale or size. This entails devising appropriate new instruments which will be adjusted by trial and error. None of these instruments has been standardized.

However, reference to our research chart, (cf. Diagram No. 1), in which each sector is related to the others, the study of these relationships, interactions and interferences remains a constant postulate in our programmed activities and determines our efforts to master the problems raised more specifically by evaluation. Consequently, any special programme is marked by a series of problems and an action platform common to all such programmes; these emerged during our national courses.

1. PROBLEMS, OBJECTIVES, AND ACTION PLATFORM COMMON TO ALL PROJECTS

In most cases, the observations and findings gathered from all the national testing-grounds, whatever the field of research, reveal:

- the unreality of the children's activity and the artificiality of the situations in which they are generally placed at pre-school level;

- the fragmentation, discontinuity, isolation and separation of the "activities" offered them in the teaching "area".

These activities, which are consecutive in time without having any really coherent links, give rise to and reinforce the unreality of the children's activity. There is only the appearance of activity. This "empty activity" is confused with the coherent, organized activity which should be encouraged from the very earliest childhood in order to help the child to mould itself in an active relationship with the world which it is moulding.

Our series of common problems can thus be formulated in the following terms: "How is it possible to free young children from apparent activity and the pitfalls of illusory activity and to give all of them the chance of establishing a real relationship with the world through truly functional, transformational and operational activity?"

The common objective in all experimental areas, whatever the programme, is as follows: "To promote the child's activities thus enabling it to create through these very activities the operators or operations which are vital for its active relationship with the world".

The action platform defined at Seez (National course 1974), with the above objective in mind,

- promises each child, in each of our experimental areas, the exercise of a freedom of action which involves it totally in its own project - or in a group project in which it plays a full part (functional value of activity).

- develops on our testing-grounds the concept of workshops and the spatial and temporal structures of the teaching "location" (transformational value of activity).

- entails, on the same testing-grounds, a choice and a thorough analysis of the situations in which the child's mental activity is involved in the fullest sense of the word (operational value of activity).

In this way, the concept of "activity", related to the three terms defined above, is given a central place in all the innovation processes studied on our testing-grounds, whatever the specific nature of the materials on which the child's action is brought to bear. Our research programme is built along these same unitary lines in order to meet our explicit ends:

- to develop the intelligence of every child,

- to develop their freedom, initiative and ability to make decisions,

- by stimulating in them that profound liking for the world which will project them into the area of the possible and by means of which the activity of each one of them will coincide with its choices and its own construction process.

2. RESEARCH PROGRAMMES

1. Language programmes

Given the progress of work to date, we may distinguish among all the isolated projects which make up our linguistic programme the following:

A. Innovative projects which have already led to the formal description of teaching situations and strategies favourable to the transformation of the child's verbal material and linguistic production. A series of control instruments for these projects has been or is being produced and gradually adjusted.

B. Descriptive projects leading to the analysis of the child's verbal production in the experimental situation. The projects are carried out in liaison with type A projects. Instruments for observation and analysis have been worked out for them.

TYPE A PROJECTS

Project 1 :

Title : Rooting the child's verbal production in the language of action

Organization of production workshops. Search for situations favourable to linguistic production.

Researchers and testing-grounds :

- Testing-grounds in Caen, Strasbourg, St. Etienne
- Organizers: Jean Vivier, Yvonne Le Roch, Madeleine Bilger, Paulette Lassalas
- With the support of François Bresson's laboratory EPHE 6th section.

Project 2

Title: "Networks" and "structures" of communication

Research on the creation of restricted speech networks promoting verbal communication among children. Instrumental supervision of the development of verbal communication behaviour. Maximum objectivation of positive strategies.

Researchers and testing-grounds

- Testing-grounds of Bondy, Paris, L'Hay-les-Roses
- Organizers: R. Teurlay, S. Gribert, J. Stindel, S. Prudhon, S. Barrieu
- With the support of Janine Beaudichon of the Laboratoire de Psychologie Génétique, UER, Paris V.

Project 3

Title: Teaching of the phonological system of the language in relation to the workings of syntactic patterns

Researchers and testing-grounds

- Testing-ground: Choisy-le-Roi
- Organizers: Simone Perron and her team
- With the support of Jeanne Martinet, EPHE, 4th section and Marie-Christine Droin, Psychologist and speech therapist.

Project 4

Title: Active use of the syntax of the language

Researchers and testing-grounds

- Testing-ground: Choisy-le-Roi
- Organizers: Simone Perron and her team and S. Bideault
- With the support of Jeanne Martinet, EPHE, 4th section and André Martinet, linguistics specialist, Paris V

Project 5

Title: Pre-training in reading with the ALFONIC system (phonological alphabet)

Analysis of the various effects of the innovation

Researchers and testing-grounds

- Testing-grounds: Villeneuve-le-Roi, Aix-en-Provence
- Organizers: Maryse Renard, Bernard Vion - linguistics specialists; Monique Ducet and Suzy de Falco
- With the support of André and Jeanne Martinet, Laboratoire de linguistique fonctionnelle

TYPE B PROJECT

Project 6 (in liaison with Project 1)

Title: Educational handwork: analysis of work produced from the creativity angle

Researchers and testing-grounds

- Testing-grounds: Le Bourget, Nice
- Organizers: M. Archambault, M. Berland
- With the support of Alain Beaudot, INRDP

Project 7 (in liaison with Projects 1, 2, 3 and 4)

Title: Analysis of oral production: narrative structures

Researchers and testing-grounds

- Testing-grounds: Asnières, Bretigny-s/Orge
- Organizers: M. Jardinier, M. Jamelot
- With the support of Marie-Christine Droin, psychologist and speech therapist

Project 8 (in liaison with Projects 2, 3, 4 and 7)

Title: Analysis of syntax in a narrative situation

Researchers and testing-grounds

- Testing-ground: Choisy-le-Roi
- Organizers: M. Bideault and S. Perron
- With the support of J. Martinet, EPHE

Project 9 (in liaison with Project 5)

Title: Observation of children's reactions to the written language

Researchers and testing-grounds

- Testing-ground: Bretigny-s/Orge
- Organizers: Hélène Claudon-Raffard and Jean Foucambert, INRDP

2. "Living mathematics" programmes

These were worked out in a "productive" workshop phase of the research-innovation project and are based on new subject matter capable of replacing the old syllabus which concentrated on a knowledge of numeration.

Objectives:

1. To make each child "the builder of its own mathematical system" by giving it the chance to bring its activity and powers of reasoning to bear on living "mathematizable" situations.

2. To give teachers a clear idea of the basic mathematical ideas embodied in the practical problem-situations put before the children.

3. To work out, to this end, not a rigid programme but a network of the basic ideas which the child approaches or encounters in practical situations.

Research stages

Phase A

1. Analysis of the teaching situations which the children are put in.

2. Analysis of the children's behaviour in solving practical problem-situations.

3. Constructing a non-linear pattern of ideas, illustrating the inter-relationship of the ideas which the teachers should know in order to foster in every child a familiarity with and a will to construct its own mathematical universe. The pattern also indicates that the idea of "number" cannot be introduced before the child knows how to recognize term-to-term correspondences and make comparisons between sets and has understood the meaning of an equivalent class.

Phase B

1. Preparation of an explanatory commentary on the pattern of ideas for the guidance of teaching strategies.

2. Study of the levels of behaviour observed in children with reference to Piaget's operational model.

3. Compilation of inductive teaching cards.

Phase C

1. Application of the pattern on the testing-grounds.

2. Observation and description of the effects of the innovation thus introduced by changing subject matter,

   - from the point of view of the child's operational capacity,

   - from the point of view of the child's attitudes,

   - from the point of view of the teacher's attitudes.

These projects are dealt with in a publication (cf. Recherches Pedagogiques No. 45 - "L'Ecole Maternelle et la Mathématique Vivante"). They were carried out by a mixed-discipline team from the INRDP, consisting of eight specialists in pre-elementary teaching, three mathematicians and one genetic psychologist.

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3. Programmes dealing with the young child's idea of and attempts to construct space and time

- in relation to psychomotor and sociomotor behaviour;
- in the development of logical processes, from the point of view of cognitive development;
- in the development of the child's language (in relation to the language programmes).

The study of problems connected with young children's discovery, construction and ideas of time and space have covered a variety of fields. The teams working in different fields do so independently, which explains the diversity of work and of the progress made. Some have got to the stage of working out theories, others have not passed the stage of more or less regulated observation, others have produced precise statements of situation and quantified results which can be used as a basis for expanding, extending and confirming experimental findings by means of controls and the formalization of the teaching strategy used in their testing-grounds. Lastly, some teams have succeeded in preserving a multi-dimensional approach, theorizing, observing, describing and applying quantified controls. It should also be noted that teams working specifically on language problems very quickly came up against problems concerning time and space, with regard to both the oral and the written language. These converging trends, which emerged quite spontaneously during the latter phases of our work, have merely accentuated our efforts to reach a common objective and a common action platform.

In order to clarify this whole body of work, we intend to divide it into three main sections, each of which will include:

- descriptive projects which analyse children's behaviour and production in experimental or non-experimental situations,
- educational projects involving supervized innovation (control of the project's objectives and objectivation),
- projects which ultimately confirm project objectives and hypotheses and describe and express in formal terms the innovative teaching situations and strategy introduced.

Lastly, we shall give a brief account of the tools which have been produced to enable the teams to theorize about the problems more easily through an objective approach to their practical work.

3.1 Discovery, construction, idea of time and space from the point of view of children's motor behaviour (in conjunction with the ENSEPS laboratory - Dr. Azemar, Pierre Parlebas)

This covers a series of projects whose object is to explore one initial field; that of the child's motor experience in space and time and through the body. By using this approach we hope to gain the widest and most vivid view of space and time so as not 'automatically to offer Euclidian frame-works" to mind that no doubt experience and see them "with more naïvety and freshness than we do".

3.1.1 Descriptive projects - analysis of children's behaviour and production in experimental or teaching situations

A. - Studies on the range of "flexibly coded games" introduced as early as the nursery school, by the children themselves or by the teachers (traditional games, made-up games, games with a number of variants, singing and dancing games, songs for specific ends);

- Analysis of the games from the point of view of the movement patterns imposed by the rules and the constraints imposed by space;
- Analysis of the relational behaviour of each player (decisions and strategies);
- Illustration of the different structures on graphs;
- Study of the abilities used in this type of sociomotor activity.

67 (Pierre Parlebas)

B. - Studies on the analysis of movement structures in relation to the rhythmic musical or non-musical structures in certain movement education methods (Malkovsky method, ORFF method, Martenot method);

- Observation of children in situ - stimulation of movement, with or without reference to more or less rigid educational methods;

- Description and analysis of the part played by the teacher in movement education situations, with or without reference to a method and in the light of specific objectives.

C. - Studies of the illustrations on graphs of the motor situations experienced by the children.

(Suzanne and Alexandre Bodak, A. M. Descottes)

3.1.2 Supervised innovations

- Elaboration. Description, analysis and first formal statement of teaching strategies based on the active exploration of space by young children. In real (therefore complex) situations where the motor initiative is always of crucial importance.

- Effects of this initiative on drawings of spatial situations experienced. Grasp of spatial and temporal properties in these drawings.

- Analysis of the effects of the innovation on the behaviour observed. Do they reveal certain elements of efficiency, inventiveness, detachment, inclination to see what can be varied in a game and observe the results, understanding and communicating with other participants.

- Effects on the teachers' behaviour (changes in their interventions, relationships and attitudes).

- Discovery of the aquatic environment by young children. Regular visits to the swimming-bath, motor initiative in this new environment (effects on the degree of vigilance, adaption through reaction, adjustment of social behaviour).

- Effects of the new motor situations on graphic art. Grasp of relationships of time and space in drawings. Progress in the anatomical representation of the parts of the body.

- Study of the transition from sensori-motor intelligence to concrete operational intelligence in teaching situations based on the children's motor experience and maximum encouragement. Listing of the most favourable situations. Description of the relevant features of the favourable teaching strategy. Description of the children's individual problem-solving strategies.

(Jacqueline and Guy Azemar)

3.1.3 Confirmation of hypotheses

In this field, research has passed from the intuitive, empirical innovation stage to the stage of maximum objectivity but has not reached the experimental stage. No "control" instruments have been worked out, and the hypotheses have not yet been welded into a coherent system.

3.2 Discovery, construction, depiction of time and space from the point of view of cognitive development (in conjunction with the Laboratoire de Psychologie Génétique, Paris V - Michel Corcia, Jacqueline Bideaud)

3.2.1 Descriptive projects

A. Studies on the representation of a familiar space (children aged from four to six) (J. Bideaud).

Aim

- To collate information on the natural evolution of the child's intuitive idea of space:
  - , from the sensori-motor and perceptual point of view,
  - , from the point of view of pictorial representation.
- To illustrate the strategies used by the child as he gradually masters spatial properties and relationships.
- To compare (for analysis) the child's production with Piaget's model (elementary topological relationships of proximity, separation and envelopment).
- To work out hypotheses on the value of certain educational measures designed to promote the development of optimum spatial structuration.

All the precise observations made in experimental situations during the school year will be used to measure the effectiveness of the teaching projects undertaken.

B. Study of spatio-temporal links established by the child in differing teaching situations.

Analysis of children's behaviour.

Description of teaching situations.

C. Studies on the ability to code spatio-temporal relationships in differing teaching situations.

Analysis of children's production.

Description of favourable situations

(All national teams)

3.2.2 Projects leading to the confirmation of project objectives and hypotheses

A. Structuring space. Attempt to evaluate a teaching strategy based on the child's activity (functional, transformational and operational) (J. Bideaud)

The terms of reference are provided by the results analysed in the previous study (representation of a familiar space).

Aim:

With reference to the three levels of development apparent in the representation of space

1. arbitrary arrangements of objects,
2. proximities and juxtaposition of proximities,
3. co-ordinated proximities,

to confirm the transition from level 2 (the commonest in children aged from five to six years) to level 3, which is marked by the introduction of projective operations into relationships of topological proximity.

Hypothesis:

An innovative teaching strategy, which should enable children to locate their motivated activities (observations, games, building ...) from a variety of viewpoints ought to make them structure space better. The improvement in the representation of a familiar space would be marked by the transition from juxtaposed proximities to co-ordinated proximities.

Preparation of a structuring teaching strategy - description and analysis of its main features.

Preparation of a control test by an interdisciplinary team.

A system for applying and marking the test.

Results of the initial test; of the final test. Comparison of scores.

Interpretation of results.

Problem: which features of the teaching strategy have most effect on the results?

B. An attempt to find structured teaching situations suitable for the elaboration of logical operations together with the development of operations concerned with forming time and space. (Michel Corcia)

Research project based on the ideas held and work done in Geneva: the development of quantification processes is very closely connected with the construction of logical operations.

Hypothesis:

Do exercises based on dovetailing spatial and temporal intervals, promote the acquisition of the enclosure relationship applied to sets of concrete objects?

This project follows a traditional pattern:

(a) each child in the sample takes an initial evaluation test (pre-test);

(b) three groups of children in three experimental classes are involved in specific teaching activities;

(c) two groups of children form two control classes where these specific activities do not take place;

(d) at the end of an identical period, the five groups of children take a final evaluation test (post-test).

3.3 Discovery, construction, and representation of space and time in children's language (in conjunction with the Laboratoire de linguistique fonctionnelle) (A. Martinet)

3.3.1 Descriptive projects

A. Survey of the spatio-temporal vocabulary of children aged from two to six in free (very independent) activity situations.

B. Survey of the spatio-temporal vocabulary in standardized situations (two to six years).

C. Analysis of interference between spatial and temporal vocabulary in the language of teachers and children. Consequences. Proposed surveys and educational proposals. (All national teams. Leader - André Thirioux)

D. Research analysing spatio-temporal relationships in the narrative structure (cf. language programmes).

E. Research into the grasp of temporal relationships in the syntax of children in a narrative situation.

Construction of a tool for expressing syntax in visual terms (cf. language programmes).

3.3.2 Operations from the language point of view are still at the descriptive stage.

Instruments available to the teams to facilitate an objective and theoretical approach to their practical work

1. Presentation of "Piaget's model" of intellectual development:

   Marguerite Laurent-Delchet
   INRDP

2. Lexicon: to facilitate understanding of "Piaget's model" (which depends on familiarity with a particular terminology):

   Marguerite Laurent-Delchet
   INRDP

3. Genetic model: construction of concrete spatial operations in Piaget's operational theory:

   Jacqueline Bideaud
   Laboratoire de Psychologie Génétique
   INRDP - Paris V

4. The "wallonian model" of the body - space relationship:

   Yvonne Le Roch
   IDEN - Strasbourg
   INRDP

5. Tool for expressing syntax in visual terms:

   Jeanne Martinet
   Ecole des Hautes Etudes - Paris
   INRDP

6. Tool for the mathematical analysis of a flexibly coded game

   Pierre Parlebas
   ENSEPS
   INRDP

7. "Mathematical model" of time:

   Crépin
   Limoges - INRDP

8. "Genetic model" of constitutive time operations

   Michel Corcia
   Laboratoire de Psychologie Génétique, Paris V
   INRDP

9. An operational definition of "creativity"

   Alain Beaudot
   INRDP

APPENDIX

Institut National de Recherche et de Documentation Pédagogiques

Centre de Recherche pour l'Education Specialisée et l'Adaptation Scolaire (CRESAS)

Introducing CRESAS

The aim of CRESAS research projects is to answer the question: why is there academic failure in elementary schools? With a view to explanation and prevention, most research projects deal with children of pre-school (or pre-elementary) age and thus concern the nursery school.

A basic research project to determine the merits of a system of prevention based on the discovery of the child's psychological characteristics (disturbances, difficulties, immaturity, etc...) showed that these features were of marginal importance and that the socio-cultural status of the family alone affected the child's development and hence its academic future at the beginning of compulsory school attendance (age six years).

Other projects dealing with the child's psychological development between the ages of two and seven aim to define the child's acquisition processes in various fields (language, psychomotor skill and cognition) in order to gain a better understanding of the disturbances involved in the case of maladjusted children.

The general trend of present research is to take into account the processes in the academic institution which give rise to difficulties and failure. Research projects deal with three convergent points:

- analysis of the school as an institution (cultural norms, ideology);
- study of the children's different social backgrounds (living conditions, attitude to school);
- study from different approaches (understanding, psychomotor skill, language) of the child's development in relation to the school.

The methodological problems encountered in our practical research work have led us to make allowances in our project for:

- the child's reaction to observation situations;
- the importance of the child's social origin in relation to the above situations;
- our own interpretation of the results, which is linked to our status as researchers.

CRESAS publications:

I. "Cahiers du CRESAS":

No. 1 Introducing CRESAS

No. 2 Some aspects of the system of decisive factors in nursery school children. Use of the definite and indefinite article.

First awareness and co-ordination of some spatial relationships between the ages of four and seven years.

First awareness of laterality between the ages of three and six years.

No. 3 The beginnings of language in children between the ages of three and seven years: syntactic structures.

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No. 4 Colloquy on difficulties and failures in learning the written language.

No. 5 The verbo-tonal remedial method for speech and auditive troubles, a language education method.

No. 6 Studies on cognitive development in children of pre-school age:

- the beginnings of the semiotic function;
- contribution to the study of practical intelligence in children aged between four and seven years;
- an attempt at a comparative study of the mastery of the idea of numerical equivalence with reference to the child's social background.

No. 7 Study of "deviance" in nursery school.

No. 8 Four studies concerning language learning:

- the inter-action of adults and children in the language learning process;
- some remarks on language learning in a girl followed up between the ages of three and four years;
- the role of intonation in the learning of syntactic structure;
- some problems of comparative bilingualism.

No. 9 The changing objectives of the nursery school.

The choice of the parent faced with an experimental school. Importance of social factors.

What the parents expect from school.

No. 10 Psychiatry in a local community: the first experiences of a team of psychiatrists with the children of a district of Bologna (Italy).

Nursery school and family background:

- social structure of a population and "problem" children in the top class of nursery school;
- presentation of certain (demographic and socio-economic) data concerning the families of children in 15 nursery schools in Paris and the Paris area.

No. 11 Study of certain problems raised by the language of nursery school children.

II. "Recherches Pédagogiques" (journal) (INRDP)

No. 68 The reasons for academic failure in the first few years at elementary school:

- individual psychological features, social background and academic failure;
- reading performance at primary school, class participation and the pupil's social background;
- experimental conditions and the intellectual development of children aged between five and six years in the field of number;
- why the nursery school?

Research in progress at the CRESAS

Study of the respective importance to a child's academic development of its "deviant" features and its family's social background.

The social, economic and cultural background of the families of pupils of 15 nursery schools in Paris and the Paris area: family background and nursery school.

The academic development of children related to their social background.

Comparative sociological and sociolinguistic study of parents and children from different social backgrounds:

- what parents from different social backgrounds expect from school,
- their children's idea of school, what is done there and what they will do there.

The objectives of special classes at nursery school.

Infant classes and sections of nursery schools.

Contribution to the objectivation of teaching method, by reference to the teaching of reading at primary school.

Genetic study of laterality in children between the ages of three and six years.

Study of certain "praxes" in children aged between three and six years.

Observation of general motor activity between the ages of three and six years.

The place in nursery schools of physical and motor education according to official texts and commentaries.

Observations on the psycho-motor development of children between the ages of four and six years.

Language education for children from "underprivileged" social backgrounds.

Learning French, the mother tongue: initial mastery and workings of syntax. An attempt at comparative studies according to the child's social background.

Learning of French by bilingual Spanish and Portuguese children from "underprivileged" social backgrounds.

Study of the different methods of determination in children's language.

The physical and logical aspects of the child's activities with unusual objects between the ages of 18 and 36 months.

Study of the development of an educational practice in connection with cognitive problems linked to the social background (children aged between four and five years).

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EVALUATION OF PRE-SCHOOL EDUCATION: RESEARCH IN THE FEDERAL REPUBLIC OF GERMANY

Emil Schmalohr

1. INTRODUCTION: FOCAL POINTS

In the mid-sixties, when pre-school education reform began in the Federal Republic of Germany (FRG), its scientific justification could be drawn only from foreign experience (cf. Lückert 1967; Sears, Dowley 1965; Dau 1973); inquiries conducted in our own country would have served hardly any purpose. Consequently, various research institutions rapidly began work on the problems involved. Their efforts were directed at checking the effectiveness of individual promotion measures (e.g. early reading); concomitant academic research included attempts to draw up models (e.g. for improving the work of "preparatory classes" (Vorklasse) or nursery schools) and curriculum development work in the narrower sense. Only a small part of this research has been completed, so that a few results are available for citation: most of the work is on a longer-term basis (up to five years) and is thus still going on, the sole relevant documentation consisting of planning papers. In many projects, especially in the curriculum field, the stress is primarily laid on the development of new curricula and less importance is attached - at least, it would appear, in the early stages - to the use of evaluation strategies. At all events, such documents as we have seen are sadly lacking in comments on evaluation, particularly as regards details of individual strategies.

The present report is accordingly an attempt to give a reasonably comprehensive, if still incomplete, survey of evaluation studies that have recently (since about 1966) appeared in the FRG, and to provide information concerning current projects in the pre-school field. The related evaluation problems, discussed with the help of selected examples, are necessarily left on a fairly general level, a fact which is also reflected in the wording of our theme.

"Evaluation" is here taken to mean the collection and use of information on behaviour changes in the learners, with the object of deciding on alterations to curricula (cf. Wulf 1972; Wiley in: Wittrock, Wiley 1970). Evaluation is held to have two purposes:

1. to compare, through measurements, the attitude of the learners with the changes in attitude expected to be produced by the curricula, and

2. to adapt and improve curricula - their aims, planning and didactic organization - so as to take account of attitude changes in the learners.

This is the narrower meaning, but evaluation may also be interpreted in other ways, such as those suggested by Stake and Stuffelbeam (cf. in: Wulf 1972), relating to:

1. social background and pedagogical field (context evaluation),

2. planning processes (planning evaluation),

3. progress with the construction and improvement of the curriculum in the light of developments (formative evaluation),

4. over-all results produced by application of the curriculum (summative evaluation),

5. implementation of the curriculum in various conditions and its dissemination: evaluation of these phenomena.

In the background to all these approaches lurk other problems affecting research into the pre-school education field. Some of these will be treated in this report on the basis of completed and current work. Research into the psychological fundaments of curriculum reform and evaluation will, however, be

omitted as irrelevant to the present theme: e.g. Brinkmann et al. 1974; Ewert 1973; Hauer, Kraak, Lemmer 1971; Hundertmark 1969; Gebauer et al. 1971; Köstlin-Gloger 1974; Raih 1973; Sagi 1970; Samstag 1971; Weinert 1973; cf. also the collective reports on experiments chiefly conducted in the USA, e.g. Falkner 1973; Schmidt, U. 1972 and Struck 1973.

For the purpose of reference to current projects the following available sources were used:

- A survey carried out by the UNESCO Institute for Education on pre-school projects in the FRG in 1970 (for assessment see Schmalohr 1972),
- Literature from the Pädagogisches Zentrum in Berlin in connection with a meeting of project leaders and representatives of ministries in April 1971 (Pädagogisches Zentrum 1971),
- A survey carried out by the UNESCO Institute for Education on curriculum projects in the FRG (Classen-Bauer, Müller 1973),
- Report on curriculum projects in the elementary education area (CIEL) sponsored by the Volkswagen Foundation (Bennwitz, Weinert 1973),
- Literature from the Deutsches Jugendinstitut in Munich (Arbeitsgruppe Vorschulerziehung 1974) on pre-school experiments,
- Questionnaire submitted by the present writer to project leaders in April/May 1974 on the basis of the documents listed above.

Current projects (position in 1973) are included with further details - e.g. addresses and evaluation intentions - in the aforementioned publication of the Arbeitsgruppe Vorschulerziehung (1974) set up by the Deutsches Jugendinstitut (address: 8 München 40, Saarstr. 7). The institute has also been entrusted by the Federal Minister for Education and Science with continuing documentation on pre-school experiments.

No mention is made in the present report of the situation in the German Democratic Republic (GDR) (cf. Vogt 1972).

As a result of the debate on educational policy, which requires further comment (cf. 2), research in the FRG in recent years has primarily concentrated on the institutions for the three- to five-year-olds and the reform of their curriculum. Early learning (for the under-threes) - as reflected in parental education, crèches, children's homes and early adoption - has been largely neglected (cf. Pechstein 1972, Schmalohr 1968). At the moment the only exception is the "day mothers" scheme launched by the Federal Minister for Youth, Family and Health Questions and based on the care of several children up to three years old in the home of a "day mother" (cf. Hassenstein 1974; Liegle 1974). Evaluation of this scheme is to be conducted by the Deutsches Jugendinstitut in Munich.

The present report accordingly deals mainly with evaluation experiments in the pre-school education of three- to five-year-old children in the institutions provided for their care (excluding "homes" and special educational arrangements; for the last-named, see Vollner 1973) and curriculum reform in this field.

For a clearer understanding of the evaluation problems to be treated, a brief survey must first be given of the general context of pre-school education in the area covered, beginning with

- basic institutional requirements and underlying education policy, with data on nursery school attendance (2.1 - 2.2)
- fundamental educational concepts and plans and initial curriculum changes (2.3 - 2.5), leading on to
- general sociological factors (2.6).

2. OUTLINE OF CONDITIONS AS REGARDS PRE-SCHOOL INVESTIGATIONS

2.1 Pre-school institutions and educational policy background

Up to the mid-sixties the nursery school (Kindergarten) was the public educational institution par excellence for the three- to five-year-olds prior to school entrance, which in the FRG at present takes place at the age of six. Reforms currently under discussion are determined by the structural plan of the Deutscher Bildungsrat (1970) and policy aims for 1980 agreed by the Federal Government (Education Report 1970; the Bundestag 1971) and the Land Governments (Federation/Länder Commission 1973) as part of the common overall education plan.

By 1980 a decision is to be taken whether the school entrance age is to be lowered to five and whether in that case the five-year-olds shall continue to attend nursery school or school institutions proper ("Vorklasse" of introductory stage for the five- and six-year-olds).

The resulting query as to the best place for educating the five-year-olds is not only of educational significance but is perhaps even more determined by legal and political undertones. Nursery schools, which are mostly run by the Churches on a "free responsibility" system, come under the jurisdiction of the Youth Welfare Acts, a branch of federal legislation. As against this, schools for older children are almost exclusively state-run, being administered by Land legislation. Legally speaking, therefore, in pre-school education two areas of jurisdiction overlap. If the five-year-olds were made subject to compulsory school attendance, the youth authorities would lose their responsibility for the educational institutions of this age-group - they would have to surrender it to the educational authorities. Hence the evaluation problems with which we are here concerned must be seen against the background of the dispute between nursery schools and "Vorklassen" and the battle for the five-year-olds (cf. Schmalohr 1971).

In the relevant discussions the term "pre-school education" bore the stamp of efforts to found a new educational system on the basis of the "downward prolongation" of the school, a system which would expressly turn its back on the socio-educational institution of the kindergarten. The "educational" institutions since founded in accordance with this view confine "pre"-school education in the narrower sense to two forms (later to become part of school education proper) of institutionalized instruction for five-year-old children prior to present-day school entrance:

1. the "preparatory class" (Vorklasse) for five-year-olds (5,0 - 5,11) in junior schools (Grundschulen) for children from six to ten years

2. the "introductory stage" (Eingangsstufe) for the five- and six-year-olds (5,0 - 6,11) representing the first section of the "primary course" (for six to ten-year-olds) and corresponding to the reform model given in the structural plan of the Deutscher Bildungsrat (1970).

In the broader sense, under the reforms advocated in the structural plan pre-school education comprises

3. the "elementary course" for three- to four-year-olds (3,0 - 4,11) brought forward as the planned "kindergarten" of the future (excluding the five-year-olds).

For the purposes of the present discussion it is, however, perfectly acceptable, as before to use the term "pre-school education" as an institutionalized form of early childhood education, and applying to,

4. nursery school for the three- to five-year-olds (3,0 - 5,11) since the kindergarten representatives have - so far successfully - protested against removing the five-year-olds from kindergarten and handing them over to the schools.

Taking the concept in its broadest sense, the link with the whole problem of the socialization of the young child is apparent. Pre-school education thus implies:

5. all endeavours to ensure the care and upbringing of the young by means of early family and institutional education during the period from birth to school entrance.

In the last-mentioned sense the term "early childhood education", currently found in English and international usage, is to be recommended as being independent of the question of institutions.

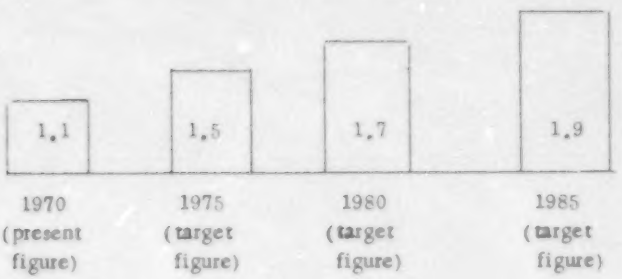
The highly topical institutions known as "Kindergarten", "Vorklasse" and "Eingangsstufe" are being tested by means of model experiments conducted by the Federal Länder with the aid of parallel academic research, primarily with the aim of discovering what educational institution ensures the best progress for the five-year-olds - a question that involves special problems of evaluation (cf. Schmalohr et al, 1974 b). The main issue is a comparison between the educational concepts of the single age-group (five-year-olds) in the "Vorklasse" and the mixed age-group (three to five) in the kindergarten.

2.2 Nursery school attendance

The question of institutions was also a focal point of interest because in order to produce equality of opportunity an increase in the number of places in pre-school establishments was regarded as the most urgently needed reform. In 1967 the FRG had 15,187 nursery schools with 1,027,458 children, although places were available for only a third of the three- to five-year-olds. Most children attended only in the mornings, but many day centres had child-minding establishments attached to them, for use by children of school age in the afternoons. Parents have to contribute financially towards the cost of the nursery school (about 40 DM per month), but it is possible for this contribution to be reduced, and the trend is towards the abolition of payment (attendance at the Vorklasse is free of charge). There are no reliable data about working-class children, but it is generally assumed that they are under-represented. Compensatory pre-school instruction, desirable and necessary as it is, for literally all three- to five-year-olds in the underprivileged sections of the community is achieved by only very few local authorities. On the 1967 federal average, nursery school groups contained 48 children. In short, it was recognized that in these conditions, compared with other European countries where up to 90% of all children are covered by pre-school education, the FRG bears from the educational standpoint the stamp of a "developing country" (cf. Trouillet 1970).

The overall education plan put forward by the Federation/Länder Commission (1973) should improve this situation. The plan provides for an increase in the number of nursery schools by 1980 such that no child need any longer be turned away (cf. Fig. 1).

Fig. 1: Nursery school places planned for 1970-85 for the three- to five-year-olds (3.0 - 5.11) under the 1973 education plan (in millions):



Differing numbers of places are here offered for the three-to four-year-old children and the five-year-old children respectively, since it is expected that whereas all five-year-olds will be catered for the number of parents who prefer to keep their three-to four-year-olds at home will vary (cf. Table 1).

Table 1: Proportion of three- to four-year-old and five-year-old children occupying planned nursery school places from 1970-85 (Overall Education Plan 1973)

	1970 (present figure)	1975 (target)	1980 (target)
ages 3-4	20%	40%	80%
age 5	54%	60%	85%

These data apply to the FRG as a whole. Individual Länder are working from special plans of their own:

e.g. in North Rhine-Westphalia the new Nursery Schools Act (1971) provides that by 1981 there will be places available for all three- to five-year-olds, a goal already reached today in certain cities. Recent statistics of the Federation/Länder Commission (meeting of 27.6.74) have shown that in 1973 1.37 m. children, i.e. 48% of all three- to five-year-olds, were attending nursery schools, so that there is a prospect of the 1975 target figure being achieved earlier. Admittedly there will probably be substantial differences from one Land to another, if only because of the varying sizes of groups. As a general rule the aim of the Structural Plan (Deutscher Bildungsrat 1970) whereby groups were to consist of 12 to 15 children is not being adhered to. Table 2 below shows the group sizes and pupil/teacher ratio at the basis of the Overall Education Plan

Table 2: Group size and teacher ratio per group from 1970 to 1985 (Overall Education Plan 1973)

	1970 (present figure)	1975 (target)	1980 (target)
group size	30	27	27-24
teachers per group	1.2	1.4	1.5

As regards the teacher ratio, it should be borne in mind that only about half the teachers have the proper nursery school qualifications. No figures exist to show the proportion of untrained or half-trained among the auxiliary staff, but it is thought to be terrifyingly high. Space forbids discussion here of staffing problems connected with reform (e.g. exodus of teachers to the school system proper) or the multifarious problems of training.

It should be noted that Table 2 reflects only the expected development of the present kindergarten for three- to five-year-olds. As an alternative, places are in future to be available for those of age five in primary establishments (introductory stage, preparatory class), even though unanimity may not yet have been reached - as we have said - on the lowering of the school entrance age or on the optimal institutional arrangements.

One factor not yet taken into account, but of undoubted influence for the future, will be the years of reduced birth-rate consequent upon widespread use of "the pill". The cohorts in question have already reached the pre-school institutions and are necessitating corrections of unpredictable dimensions to our earlier calculations. A further imponderable for the future is the proportion of foreign workers' children, which is already considerable in many nursery schools.

2.3 Educational concepts

The concept of education on the Froebel pattern, found in the German kindergarten, was the undisputed basis, taken over by many other countries, for nursery schooling in the FRG until well into the 60s (for the historical background cf. also Barov-Bernstorff 1969). In an institution designed to "promote the development" of three- to six-year-old children in a mixed age-group, the primary aim - using play activities and constructive education suited to the children's ages - is to encourage independent action, community sense and language development. The Froebel system, which owed much to the entelechial development theory of the Romantic movement, the pedagogical principle of natural growth and the graduated training methods of later developmental psychologists (Kroh, Gesell), was essentially built up during the 20s as a result of pedagogical and psychological research, the movement for art education and the growing influence of the Montessori methods (cf. Blochmann 1928, 1961, 1970; Hoffmann 1960).

In the FRG a decisive turning point was reached in the years 1966-67, when it was "discovered" that for want of places, teachers and space the nursery schools were in a state of "educational emergency" (Lückert 1967, Schwarz 1967), and criticism of the kindergarten's educational work to date sparked off the "battle for pre-school education" (Flitner 1967; Hoffmann 1967; Schulz 1968; German Commission for UNESCO 1970; Schmalohr 1971; Küchenhoff 1971; Kroj 1972; Austin 1973; Hagenbusch et al. 1973).

The sudden upsurge of public interest in nursery school education as the hitherto largely unnoticed prop to parental training, was based on scientific convictions developed in the USA (Lückert 1967, 1969;

Roth 1968; Deutscher Bildungsrat 1970). The plasticity of development, talent and motivation, their susceptibility to early environmental stimulation (Hunt 1961) and their early stabilization (Bloom 1964) made it clear that early childhood is the vital period for all learning, talent forming and personality development. On the lines of the "Head Start" pattern (USA), pre-school education was regarded above all as a promising way of guaranteeing children from underprivileged groups a good start in school life and overcoming their usual lot of intellectual and educational neglect.

The education of small children in the nursery school was castigated on the grounds that it did not do justice to the latest findings and that concentration solely on play aspects and "inactive observer training" did little to promote the child's learning capabilities. In the overcrowded schools, it was said, the emphasis was rather on "looking after" the children: culturally they tended to be neglected, and underprivileged children, in particular, were not reached at all because of the shortage of places. In contrast to the hitherto accepted socio-pedagogical tasks an educational aim has been put forward for the kindergarten, which has become a hotly debated institution of pre-school education.

In the present state of pre-school education we cannot ignore the fact that there are highly divergent policy aims (Schmalohr, Schüttler-Janikulla 1972; Arbeitskreis Vorschule 1971). Apart from the complex and unresolved problem of institutions, already mentioned, we are still faced with widely differing theories on curricula. Admittedly the days of uncritical acceptance of American programmes and of the "first fine careless rapture" about "talent forming" through learning (cf. Roth 1968) are over, as well as the belief in increasing intelligence through early reading. But such polarizations as "early training of the 'whole man' rather than of the intellect", "early cognitive versus socio-emotional stimulus" and "structured" versus "open" curricula still survive in discussion or are emphasized in the cardinal points of current projects (cf. thesis reports in: Schmalohr, Schüttler-Janikulla 1972) and are also determining factors for present problems of evaluation (cf. 3).

2.4 Educational planning

These trends are also discernible in the recently developed outline educational plans for the various pre-school institutions, issued in the form of curriculum planning (cf., for summaries, Kleinschmidt 1972; Schmidt, H. 1972). Some of these plans are geared more to the needs of schools, such as those for the "Vorklassen" (Senator for School Questions, Berlin 1969; Ministers of Education for North Rhine-Westphalia 1972, Lower Saxony 1970, Baden-Württemberg 1972, Schleswig-Holstein 1971) and the "introductory stage" (Hessen: Kroj 1972; some are directed at the kindergarten (e.g. Minister of Labour, Health and Social Affairs, North Rhine-Westphalia 1971), whilst others are joint plans for kindergarten and "Vorklasse" (Minister of Education, Saarland 1974) and for kindergarten and "introductory stage" (Bavarian Minister of State for Education 1974). The plans emphasize the democratic tasks of education and culture, as opposed to which the continuing social vocation of pre-school institutions is given a lesser role. As a rule the plans are broken down by broad objectives into syllabuses for different subjects, e.g. social advancement, language development, play, contacts with nature and things, sensual experience and thought, music/movement/rhythm, art. The subjects are further divided into learning objectives, and sometimes the plans contain additional suggestions. An initial comparative evaluation of two such plans may be found in: Schmalohr et al. 1974c.

2.5 Beginnings of curriculum change

Greater respect is due to suggested curriculum changes as part of pre-school education reform. Some of these involve evaluation experiments, which, however, have not yet been published. General plans for fresh work can be found in: Hoenisch et al. 1971; von Hentig 1971; Giel, Hiller 1970; Lückert 1972; Retter 1973; Working Party on Pre-school Education 1973. More structured approaches with better-defined evaluation plans are promoted in the CIEL projects of the VW Foundation (Bennwitz, Weinert 1973). Parental work and action research are described in: Prüser 1972; Haak 1972. Suggestions for education in music and movement will be found in Abel-Struth 1974; Friedemann 1971; Mayer-Denkmann 1972; Zöller 1973; Wucher 1972; for sport - Diem 1973, Diem-Gerhardus 1973, Trees 1972; for swimming in the first and second years of life - Bresges 1973. A fuller description of development trends in the aims and content of elementary education - dealing, however, principally with the junior school (Grundschule) age-group - can be found in Garlichs, Messner 1973.

Huber (1971) stresses the importance of the further training of teachers in every curriculum review. As a result of the kindergarten model experiment in North Rhine-Westphalia a further training programme for teachers has been published, along with an evaluation study (Schmalohr, ed. 1974a).

The planning of pre-school educational and cultural work is increasingly leading to the discussion of ideas of curriculum construction, centred on concepts such as "social learning", "situation assessment" and "action guidance" (Arbeitsgruppe Curriculum Eingangsstufe; W. Schulz 1972; Arbeitsgruppe Vorschulerziehung 1973; Zimmer ed. 1973; Heipke, Messner 1973) and "open curriculum" (Brügelmann 1972 a and b; for criticism, cf. Brinkmann 1974).

Alongside some divergent trends there is unanimous agreement, in curriculum assessments and cultural policy statements, on the social role of pre-school education. This is at the root of the demand for priority encouragement of socially and educationally underprivileged children, which is simultaneously aimed at fostering a reform of the junior school from the bottom up. These efforts came to the fore through the anti-authoritarian education movement in the pre-school field, a movement whose vanguard came to be occupied by psychoanalytical and anti-capitalist concepts, partly of class-war and Marxist stamp; its origins lay in the "Berliner Kinderläden" ("Maoist nurseries") founded in 1968 at the time of student unrest during the Vietnam Congress in West Berlin (Berliner Kinderläden 1970; Breiteneicher 1971; Heinsohn 1971; Nagel 1973).

The call for diffential compensatory education aimed at the underprivileged (Bruhl 1971; Sprey 1972; Stukát 1974) is, however - with a few excepticns such as Harde et al. 1970 - completely lacking in the FRG (cf. Iben 1973; Arbeitsgruppe Vorschulerziehung 1974). Work on "marginal groups" is mostly left to small groups of parents and students, as is the work done by parents in regard to compensatory instruction - an initiative that has as yet scarcely been discovered by e.g. the family education institutions or "Mütterschulen" ("mothers' schools") (cf. Sprey 1973).

These developments show that pre-school education in the FRG is going through an experimental phase. In curriculum construction the primary interest focuses at present on the field of "social learning". The idea is further expanded in a "model programme" of the Deutscher Bildungsrat (1973) which also enjoys international support (cf. Zimmer 1973b). So far, however, it has hardly been adequately tested and its acceptance has been in no way assured by appropriate evaluation experiments (for further comments see 3,4 and 6,2).

2,6 General sociological factors

The demand for more and earlier extra-familial education especially in nursery schools and other pre-school institutions has four socially determined causes in the FRG, as in other industrialized countries.

First and foremost there is the increased number of working mothers with children of pre-school age. Thirty-two per cent of all women in the FRG exercise some vocation or other: of these, 55% are married and one in three is the mother of children under 18. Of all employed women 36% are obliged to work as the principal bread-winner for the family. It is estimated that there are about 8000,000 children under three years of age whose mothers go out to work.

Vocational activity by mothers results not only from the need to support the family and meet the rising cost of living, but also from the increased demand of women for emancipation. This demand is often peremptory and may be classed as the second motive for pre-school reform. It is said to fulfil the woman's claim for a satisfying professional and socially orientated life outside her family obligations, as part of the "Women's Lib" movement. One of the key events here was the founding of the "Maoist nurseries" in Berlin by student mothers, who in this way solved their "baby problem" so that they could participate in political action. Through anti-authoritarian education they could take up arms against a "repressive" society by encouraging even their small children to "fight the good fight" at their side.

Thirdly, one must mention pressure of public opinion through the popularized research findings of a "didactic" society. Parents and other educators are striving to leave no stone unturned in their endeavours to exploit early learning opportunities for their children.

Fourthly, it is the consensus of all social groups in the FRG - first and foremost the political parties - that one of the obligations of educational policy is to offer equality of opportunity, especially to "underprivileged" children, through early pre-school education. Efforts effectively to reach all these children were the main reason for the discussion on the lowering of the school entrance age, and as a further consequence led to the policy dispute mentioned earlier, concerning the best institutional solution for the five-year-olds.

In the Federal Republic today, changes in educational policy coupled with a new economic situation (leading, e.g., to reduced financial circumstances) are factors contributing to a setback for pre-school education reforms that have in any case been slow to see the light of day. Thus it was that the "Model programme for curriculum development in the elementary education field", published by the Deutscher Bildungsrat in 1973 and due to become operative in the same year, had to be postponed.

3. EVALUATION EXPERIMENTS AND THE METHODS USED

3.1 General survey

The first survey on pre-school projects in the FRG, carried out in 1970, by the UNESCO Institute for Education in Hamburg, already showed that four types of scientific research into evaluation processes were going on (Schmalohr 1972, with names of institutes and researchers concerned):

1. Parallel investigations into model experiments conducted by the federal Länder on the question of institutions (e.g. kindergarten or preparatory class?) in scientific institutes (nine projects, e.g. in Hessen: Deutsches Institut für Internationale Pädagogische Forschung 1971; in North Rhine-Westphalia: Minister of Labour, Health and Social Affairs 1971; Schmalohr, Dollase et al. 1974 b and c; in Rhineland-Palatinate: Interim Report; Wenzel, Frey 1973; in Schleswig-Holstein: Minister of Education 1971);

2. Efficacity controls with regard to certain promotional measures (early reading, language development, school readiness training, including groups of children with learning deficiencies), carried out by individual researchers and/or voluntary groups (nine projects, cf. section 5);

3. Work on curriculum development, e.g. adaptation of American programmes (five projects) by individual researchers;

4. Research into compensatory education (e.g. Harde et al. 1970).

Only a certain number of these projects reported in 1970 have since been completed (e.g. that of the Deutsches Institut für Internationale Pädagogische Forschung 1971); others have been abandoned, but most are still in progress.

A glance at the more recent sources quoted above (cf. 1) shows that in current projects up to 1974 there has been a shift of emphasis. Research into the question of institutions has ceded some of its importance to curriculum projects - not least because of political developments (cf. Deutscher Bildungsrat 1973) - although already, e.g. in Bavaria, a large-scale project on the institutional problem has just been started afresh (Institut für Frühpädagogik 1973). As against this, curriculum development has assumed greater prominence and is today in progress in several areas:

a. in pilot projects undertaken by the Länder (e.g. large-scale projects in Hessen and Rhineland-Palatinate: Arbeitsgruppe Vorschulerziehung 1973; in Bavaria: Institut für Frühpädagogik 1973);

b. in the CIEL projects of the Volkswagen Foundation (Bennwitz, Weinert 1973) seven projects: social learning (Pädagogische Hochschule Berlin: Arbeitsgruppe Curriculum Eingangsstufe; W. Schulz 1972); intelligence training games (Institute of Psychology, University of Hamburg, Prof. Dr. Hofstätter, Dr. Ruppel); language development (Institute of Psychology, University

of Heidelberg, Prof. Dr. Graumann); learning to read (Institute of Psychology, University of Regensburg, Prof. Dr. Rüdiger, cf. Rüdiger 1970); new mathematics (Pädagogische Hochschule Kiel, Prof. Dr. Freund-Sorger); natural science (Institute of Pedagogics, University of Göttingen, Prof. Dr. Tütken, cf. Arbeitsgruppe für Unterrichtsforschung 1971; Tütken 1972); instructional models (Pädagogische Hochschule Reutlingen, Prof. Hiller, cf. Giel, Hiller 1970);

c. in activities of the universities (e.g. Garlichs 1972), towns or associations sponsoring pre-school educational institutions amongst which we may include certain projects for the development of procedures for research into medical and psychological diagnostics (cf. the project "Action Sonnenschein", Prof Hellbrügge, in: Arbeitsgruppe Vorschulerziehung 1974).

Curriculum development and related evaluation problems have also been given a new stimulus by:

the "Model programme for curriculum development in the elementary field" of the Deutscher Bildungsrat (1973) and two inter-regional implementation projects planned for 1975, viz:

a. a test programme on behalf of Federation and Länder, decided upon in 1974 and conducted by the Deutsches Jugendinstitut, Munich;

b. a test programme for CIEL projects, planned by the Volkswagen Foundation.

Detailed examination shows that by no means all the pre-school education projects under (3) include an "evaluation" in any form as part of the planning. Curriculum development appears to be carried on here in the form of planning the educational work without any explicit thoughts on evaluation strategies. Table 3 below illustrates the proportion to the total of all projects envisaging or neglecting evaluation: it sums up the documents of the Arbeitsgruppe Vorschulerziehung 1974.

Table 3: FRG: Pre-school projects by place of application, financing and frequency of evaluation intentions. (Source: Arbeitsgruppe Vorschulerziehung 1974).

Type of project	No.	Financed by:					Evaluation:			
		Land/ Federation	Municipalities	City	Volkswagen Foundation	Higher education institutions	Yes	Being developed	Planned	No
Nursery school	16	10	6	-	-	-	6	3	2	5
Introductory stage	15	10	-	-	4	1	6	2	2	5
Preparatory class	10	6	-	4	-	-	3	1	1	5
Voluntary groups	17	-	17 (3 with Fed)	-	-	-	2	-	-	15
Marginal groups	10	1	9 (3 with Fed)	-	-	-	5	-	2	3
Subject curricula	13	2	-	-	3	8	5	1	1	6
Total	81	29	32	4	7	9	27	7	8	39

It will be seen that a good third of the projects definitely include evaluation plans and about half comprise no such intentions. Even in the projects financed by the Federation and Länder from public funds evaluation is not assured in all cases and has not been made an indispensable component of the scheme by the commissioning body. An especially unfavourable light is cast on projects by voluntary groups (mainly those set up by parents), chiefly, no doubt, because evaluation in this type of work presents exceptional difficulties and because the projects lack funds for scientific research.

3.2 Evaluation criteria and variables

The following data on evaluation criteria and variables are also based on documentation of the Arbeitsgruppe Vorschulerziehung (1974). A clear-cut distinction cannot always be drawn between "criteria", understood here in the sense of measurement processes, and "variables", which come into operation in the course of measurement processes. Individual test procedures cannot be identified on the basis of the available material. In the following table the procedures are summarized by groups of criteria and/or variables.

Table 4: FRG: Evaluation criteria and variables in pre-school projects (Source: Arbeitsgruppe Vorschulerziehung 1974)

Methods	Number of projects
Observation of children	
Observation of general behaviour, continuous observation, observation sheets	8
Findings of participant observers	2
Subsequent observation	1
Video recording	1
Interaction analyses	1
Observation of teachers	
Questioning of teachers, questionnaires	2
Experience reports, day-to-day notes	2
Observation of parents	
Parents' attitudes	2
Methods of testing children	
Test batteries	4
School readiness tests	3
School performance and capability tests (e.g. vocabulary, language, reading)	3
Intelligence tests	1
Concentration, attitude to work	1
Informal tests for assessment of learning	4
Tests of manipulation	1
Locally developed tests	1

In only three cases do the projects include a reference to evaluation in the proper sense (formative and summative evaluation). Well over half of them are satisfied with evaluation in a broader sense, using only a single one of the procedures mentioned. The main emphasis is placed on evaluation of the children's behaviour, although with no thought of, e.g., questioning the children themselves. Less attention is paid to the views of teachers and parents, and none at all to those of local authorities, associations and other "clients" interested in curriculum development.

A detailed comparison and discussion of test procedures currently available for five-year-old pre-school children will be found in: Schmalohr, Dollase et al. 1974b (see the paper by M. Chazan "The use of tests in the evaluation of pre-school educational programmes" in this volume).

3.3 Evaluation in parallel reseach

The investigations mentioned in section 3.1 (1) and (2) represent as a rule field work arranged on a quasi-experimental basis, such as is customary in traditional forms of empirical-psychological research (cf. e.g., Campbell, Stanley 1965). In the FRG it is an innovation to accompany pilot projects in the educational sphere with scientific research. Evaluation in the course of such research consists primarily in determining the effects of various institutions (nursery school, preparatory class

or introductory stage) on children's performance. The commonest practice is to undertake measurements with standardized tests, using agreed variables both dependent and independent (cf., e.g., Belser 1972a, Deutsches Institut für Internationale Pädagogische Forschung 1971, Braun in : Minister of Labour, Health and Social Affairs 1971; Schmalohr, Dollase et al. 1974b). In a few projects new tests are constructed, which are better suited than the traditional methods to certain effects of enrichment procedures (e.g. Deutsches Institut für Internationale Pädagogische Forschung 1973, Schmalohr et al. 1974b).

To ensure objectivity, the evaluators mostly conduct their investigations as outsiders and are independent of the programme developers (external evaluation). The study of evaluation problems, as developed in the USA by Tyler, Gagné and Scriven (1967) and Tyler et al. (1970), was not yet taken into account during the initial planning of these projects and has only recently come up for discussion (cf. Wulf 1972; Schmalohr et al. 1974b). The chief problem here is to get to grips with stimulation areas of significance for pre-school education by means of goal-oriented measurements, especially variables concerned with social learning and its corollary "competences" (cf. Zimmer, ed., 1973).

Over and beyond this, traditional ability-oriented measurements are often wholly called into question in the Federal Republic, especially in leftists' criticism of the "capitalist" ability principle (Nagel, Preuss-Lausitz 1971).

3.4 Evaluation in curriculum projects

Alongside the research projects that tend rather to serve structural and organizational reforms, evaluation strategies in the strict sense have developed in curriculum projects limited to reforming the content of pre-school education. While it was not until 1970 that a curriculum project explicitly introduced questions of formative and summative evaluation (Tütken 1972, Arbeitsgruppe für Unterrichtsforschung 1971), these questions were more avidly taken up in the following years and became part and parcel of the experiments.

The decisive stimulus came from the announcement by the Volkswagen Foundation, designed to promote a "curriculum for institutionalized elementary education" (CIEL) under a programme covering about five years (cf. Bennwitz, Weinert 1973). In the assessment of the CIEL proposition two widely differing sets of criteria for the appraisal of curriculum projects (Bennwitz, Weinert 1973, 362 ff.) and the advantages of supporting them (Heckhausen 1971) were developed. So far as the whole problem of evaluation in the seven approved projects carried out to date is concerned, consideration was given at the planning stage to suggestions for decision-making theory (von Winterfeld, Rüppel, 1971) and to the evaluation strategies developed in the USA (Bredenkamp 1972).

As the work went on, it became clear that there were, grosso modo, two kinds of evaluation problem. The first concerns projects which are more technologically oriented to the psychology of instruction (e.g. natural science curriculum, cf. Arbeitsgruppe für Unterrichtsforschung 1971). The second came to light in experiments based on an innovatory suggestion for social learning, at once action-oriented and emancipatory in practice (Arbeitsgruppe Curriculum Eingangsstufe 1972). Whereas in the projects geared to instruction psychology goal-oriented test procedures emerge in the course of curriculum development, the construction of measurement procedures necessarily aimed at measuring "competence growth" as part of action-oriented assessment runs into considerable difficulty. The publication of the evaluation strategies and methods used in the VW projects, and their results, are eagerly awaited.

The last-named form of assessment is being used by Zimmer and his research group at the Deutsches Jugendinstitut, Munich, in curricular work on a situation-oriented reform model, which includes the development of "didactic units" for the elementary area, using such materials as posters, film material, etc. (Arbeitsgruppe Vorschulerziehung 1973; Zimmer, ed., 1973a).

The situation-oriented approach of the Arbeitsgruppe Vorschulerziehung was taken up by the Deutscher Bildungsrat in its "Model Programme for Curriculum Development in the Elementary School" (1973). This project, already mentioned, was to have been carried out between 1973 and 1976 in 100-120 model nursery schools and 10-15 centres distributed over the territory of the FRG with a view to developing new curricula, but will probably be abandoned. It is nevertheless worthy of discussion here, because it is likely to serve as a yardstick for the evaluation strategies recommended in connection with many curriculum projects throughout the Federation. Special importance attaches to the planned strategies it advocates for "internal" and "parallel" evaluation, which are to "ensure general dissemination of the didactic units" through a growing "professionalizati " of both researchers and teaching staff. Nevertheless, it may be wondered whether the abandonment of the traditional "external" evaluation will still guarantee the necessary degree of objectivity and counter-checking of the results. We shall return to this question later (cf. 6.2).

3.5 Evaluation in planned experiments

It seems probable that, rather than the model programme of the Deutscher Bildungsrat, two other projects will go through. The Federal Ministry of Education and Science has proposed to the Federation/Länder Commission that it improve and unify the individual curricula hitherto sponsored ; the method recommended is that of common testing by the Deutsches Jugendinstitut of all the curricula concerned and comparison of the results. This experiment could be regarded as a reduced form of the model programme proposed by the Deutscher Bildungsrat. In addition, the Volkswagen Foundation is planning to put to the test the current CIEL projects of its own inspiration. In both projects the aim is not simply to disseminate the programmes but to test them out. It is planned that alongside the curriculum development groups evaluation groups should be set up, whose task it will be to test the curricula in fresh groups of children in other conditions.

In accordance with its customary working methods to date, the Deutsches Jugendinstitut intends primarily to foster processes of communication between development and evaluation groups by means of inter-professionalization "on the ground" in test nursery schools. Each regional evaluation group is to be responsible for 10 test schools. The 30 "didactic units" so far developed by the Jugendinstitut for social learning are clearly the framework for the test, supplemented by a sports curriculum, a music curriculum and a combined music and movement curriculum (cf. Diem Gerhardus 1973 ; Wucher 1973 ; Zöller 1973). The project provides that the evaluation groups of the Jugendinstitut shall operate as "counsellors" for optimizing transmission to the test group.

This possible function of the evaluation group is also found in the experiment planned by the Volkswagen Foundation and is recognized as having promotional value for certain of its curricula. But in the test programme the emphasis is to lie in the fact that the evaluator or implementer predominantly plays the role of an observer who documents the experiences gained by the teachers and test groups with the seven different curricula formulated. Simultaneously a check is carried out on the communications strategy built into its curriculum by the development group. Hence in this project special importance is attached to divorcing the curriculum from the development group. The fact that success is here not guaranteed or predetermined by the communications strategy of "professionalizing" the evaluation group makes considerably greater demands on the CIEL curricula, if they are to prove their independent worth in new conditions.

It is highly desirable that co-operation should be established between these two experiments.

Before we proceed to further discussion of the types of evaluation described in the present section 3, the following two sections 4 and 5 contain a description of the evaluation studies so far completed.

4. Evaluation in relation to pre-school education in general

In this and the next section accounts are given not of investigations merely planned, but exclusively of some already successfully carried out. Current curriculum projects already mentioned, and projects in progress in the Länder, especially on the question of institutions, which mainly relate to the general evaluation of pre-school education in the FRG and cannot be expected to produce

results until a few years hence, are accordingly excluded - with two exceptions: the experiment with the "introductory stage" in Land Hessen and the "Vorklasse-Kindergarten" model experiment in North Rhine-Westphalia have already produced initial results, to which consideration will be given in the inventory that follows. In the work listed below, which has been started in the last few years, we are concerned with "exploratory studies" on the following questions:

1. activity analyses in nursery school education (Westermann, De Wall 1972; Barres 1972);

2. comparison between children with and without pre-school training (Preuschhoff 1973; Sauter 1972);

3. comparison at the end of the first school year of children with and without introductory-stage training (as five-year-olds) in Land Hessen (Deutsches Institut für Internationale Pädagogische Forschung 1971);

4. comparison between preparatory class and nursery school training (Ferdinand 1971; Keese 1972);

5. effects of pre-school training on working-class children (Ferdinand 1971);

6. comparative evaluation of preparatory classes and kindergarten by means of a questionnaire to educators (Schmalohr, Dollase et al. 1974c).

Only one of these studies goes into long-term effects - that by Ferdinand, No. 5, in which the progress of working-class children is followed into the second school year. There is thus no point in sub-dividing them by short- and long-term effects.

As is usual in exploratory studies, many of these works provide on various grounds the occasion for methodological criticism, which results from the traditional experimental design and into which we need therefore not enter here. Neither can we go into the details and criticism of the tests employed in seeking to bring into operation the variables examined, even though in this very respect there is much to be desired. In what follows only some of the work listed above is given closer attention, and no conclusions should be drawn from our exposition.

1 (a)

The work of Westermann, De Wall (1972) and Barres (1972) is essentially an analysis of educational events in the nursery school with the aid of observation procedures (time test technique and specified observation). Barres, whose very thorough inquiry will now be examined, takes as a basis the observations of an investigating team in 57 nursery schools, concentrating essentially on the children's forms of play and occupation, teachers' attitudes to educational work and children's attitudes to conflict situations. It was shown that the various forms of activity predominantly fostered the child's power of visualization and subtler motor impulses. Training of the gross motor impulses and goal-oriented activity, which could both be characterized as systematic cognitive stimulation, were less often in evidence. The teachers' attitude to their work was marked by a high degree of guidance in the form of challenge, directions, warnings and orders to individual children. Earlier and initial findings by Tausch et al. (1968) were thus confirmed (cf. Tausch, A. and R., 1973 and Schenk, Ungelenk 1974). The children's attitude to conflict in the form of aggressive, defiant, disobedient behaviour towards the teacher resulted from the organizational stage of the work, group density and size, as well as from the teacher's attitude. Communicative action by the mistress in the form of questions and conversational contacts was rare, in contrast to action tantamount to guidance.

3 (a)

The inquiry into effects of the introductory stage, carried out in Hessen, covered observations in the field, examination of the socio-economic situation and studies of children as regards cognitive, motor and creative development. It was noted that the pupils were predominantly from the upper and middle classes and that the lower class was under-represented. In the areas of motor and creative development (drawing) no differences were found. The cognitively oriented tests were taken by 280 children aged five at the start of the project and attending the "introductory stage" at seven junior

schools (Grundschulen) and by a control group of about 360. All were examined at the beginning and end of their first school year for intelligence (picture test 1 and 2), school performance (spelling, reading, arithmetic) and power of concentration. In some cases new test methods were used, which however have been only partly published. The level of intelligence displayed by the children who had passed through the introductory stage was found to be superior to that of children not so trained as five-year-olds. School performance showed unsystematic differences, depending on the stimulation received during the first school year.

4 (a):

An inquiry by Ferdinand (1971, Inquiry 5) showed 44 children trained in a preparatory class (Vorklasse) to have advantages over their peers attending three nursery schools when the Göppingen school aptitude test was applied, although the author admits that the variable represented by the teacher could not be checked. Despite obvious advantages (smaller groups, better equipment), Keese (1972) found that 40 preparatory class children displayed no differences in intelligence level compared with their peers in nursery schools (Raven matrices, Snyders Oomen test, HAWIK). In language development (picture description) both groups showed equally slight progress; as against this, work done by the preparatory class children led to better results in the Reutlingen school readiness test.

5 (a):

In his studies of working-class children of pre-school age Ferdinand (1971) tried to answer several questions. He began by showing (Inquiry 1) that among 690 school beginners there were significant differences between working- and upper-class children as regards school readiness (Frankfurt test) and intelligence test performance (Raven matrices), as well as in oral expression (CAT picture description) and marks given in school reports after two school years. Of this batch 30 lower- and upper-class children of equal IQ (picture test 2/3) were then selected, and submitted at the end of the second school year to tests in reading (Chicago Reading Test: oral reading), understanding of the text Biglmair), arithmetic (HAWIK) arithmetical thinking and spelling (two dictations devised by Ferdinand). The results showed the lower-class children to be at a considerable disadvantage in regard to language-dependent performance.

The other inquiries by Ferdinand (2-4) showed that intelligence levels of pre-school trained lower-class children continued to rise up to the middle of the second school year, whilst there was a falling off in the IQ of children from the same milieu who had not had such training. In none of these experiments, however, was any account taken of the influence of the teachers and testers.

5. EVALUATION OF SPECIAL PROGRAMMES

Interest in pre-school reform was awakened in the FRG between 1966 and 1970 by expectations of enhanced talent and intelligence (cf. summary in: Schmalohr 1970). During and after that period studies were made relating to the following areas:

1. language programmes (Issing, Ullrich 1969; Schüttler-Janikulla 1972);

2. other cognitively oriented programmes:

   2.1 early reading (Schmalohr 1969; Schüttler-Janikulla 1969; Brem-Gräser 1969; Correll 1970; Rüdiger 1970; Krüger, Durke 1973; summarized in: Schmalohr 1973);

   2.2 school readiness training (Klapproth 1969; Henning 1970; Löschenkohl 1974);

   2.3 visual differentiation exercises (Nickel 1969; Royl 1971);

   2.4 new mathematics (Bauersfeld et al. 1972);

   2.5 power of concentration (Kleber 1973);

   2.6 research into playthings (Breuning 1973; summary of older work in: Rech 1972);

3. sport: movement learning (Rapp, Schodler 1973);

4. socio-emotional development: effects of child-centred dialogue and group conversation (Tausch et al. 1973);

5. parent-child interaction:

5.1 attitude of mothers to education (Langer et al. 1973);

5.2 playground studies (Schmitz-Scherzer et al. 1974).

Most of the works listed here do not actually represent research into the evaluation of programmes; rather do they take the form of exploratory studies which, in the quasi-experimental arrangement of field projects, investigate certain promotional measures in the areas described. Others are more of a descriptive character. For reasons of space we can do no more here than examine in some detail a few of the more interesting studies. Works not mentioned offer, on the question of evaluation, no essentially new aspects compared with the inquiries described under section 4.

1 (a):

Evaluation in this field is in no sense consonant with the significance of language training and the dissemination of programmes to promote it (Valtin 1974). After use of his "language training kits", with which many nursery schools in the FRG are equipped, Schüttler-Janikulla (1972) found significant IQ increases (Stanford-Binet test) in 18 working-class children as compared with a control group. Issing-Ullrich (1969) observed that fifteen four-year-old children who had had four weeks' training in verbalizing their play activities of the moment (which had been accompanied by certain speech formulations), gave evidence of a significant rise in IQ (Stanford-Binet) compared with a control group who had had no such training but whose play had been similarly guided and supervised. Goal-oriented tests did not take place, nor were the subjective effects of the test exercises and the examiner's presence considered or the long-term effects investigated.

2.1 (a):

In contrast to other cognitively-oriented development areas, several studies give more thorough attention to the effects of early reading in the cognitive and emotional field. Mention may here be made of a lengthy summary by Schmalohr (1973), which also contains a curriculum item "basic reading", developed in collaboration with H. Fehrmann and already put to the test.

3 (a):

In an inquiry into sensori-motor learning (mental training) Rapp and Schoder (1973) showed in the case of nine five- to six-year-old children that already at this age motor learning processes take place through concepts of movement. The children, who were put through a nine-day programme of mental or practical training exercises for 20 minutes daily, showed a significant increase in performance, while the increase shown by an unexercised control group was insignificant.

4 (a):

Tausch et al. (1973) arranged for groups of 30 lower-class children from nursery schools (average age 5 years 6 months) to be engaged in child-centred dialogue and group conversation with psychologists over periods of six to eight weeks. These children were compared through pre- and post-tests with lower-class children who had not had such treatment, as well as with children from other social classes. Assessment scales showed them to have undergone positive changes in the shape of greater emotional stability, social co-operation, contact-seeking (questions to parents) and spontaneity of speech, as well as accuracy of perception (in an intelligence sub-test).

5.1 (a)

The inquiry by Langer et al. (1973) goes further than Tausch's group into early education of a non-institutional and family character and if only on that account deserves special attention. In four extra-domestic environments (means of transport, waiting-room, toy department, restaurant), 90 mothers, each with one child of from two to ten years old, were observed, without their knowledge (verbal and non-verbal interactions). The assessment of judgements recorded by student observer groups on a five-dimension seven-step scale showed that as a rule the mother/child interactions were characterized by very little maternal warmth, by irritability on both sides, intensive guidance by the mother coupled with minimal stimulation of the child, and few examples of spontaneity and independence on the child's part. Children whose mothers displayed a sense of values and less tendency to an authoritarian attitude showed significantly greater spontaneity and independence than those of mothers with the opposite attitude.

6. PROBLEMS OF EVALUATION EXPERIMENTS

Concepts of evaluation in the pre-school field in the FRG reflect the multitude of directions taken by the educational efforts involved. It is precisely this wide variety that so far prevented the formation of a uniform view. Evaluation - when it occurs - is accented in divers ways: it may be broadly or narrowly conceived and variously interpreted (cf. the evaluation areas listed in section 1). In the confused plethora of ideas and for lack of documentation it is difficult to determine dominant interests, problems and certain lacunae in the strategies adopted (cf. for standards Tyler, Scriven, Gagné 1967; Tyler (ed.) 1969; Wittrock, Wiley (ed.) 1970; Wulf (ed.) 1972). It is to be hoped that an impetus will be given to the development of evaluation methodology by on-going research projects. To provide a few bearings for purposes of our present discussion, a few problems in two fields of evaluation will now be outlined.

6.1 Parallel research projects

That parallel research projects were not dealing with field research in the traditional sense, but were in themselves "evaluation" was a realization that came only tardily. A discussion began concerning the political implications of educational experiments and the role of the scientist who undertakes commissioned research serving political aims (cf. Nagel, Preuss-Lausitz 1971). The evaluation questions which arise in individual cases, and which overlap with "context evaluation" and are an aid to policy decisions, are only now being recognized (cf. Schmalohr et al. 1974b) and call for further reflection and revision (cf. "Changing role of the evaluator", in this publication).

In parallel research special problems are posed by the question whether the traditional psychological tests can serve as evaluation criteria for measuring the decisive variables for determining attitude changes in the curriculum. Goal-oriented tests are then devised with the object of defining ways and means of checking the attainment of learning goals. More work is urgently needed on the methodological problems thereby raised (cf. e.g., Popham, Husek 1969; Heipke 1971; Block 1971; Bloom et al. 1971; Klauer 1973). New investigation procedures are particularly necessary if operational use is to be made of variables inherent in the process and those which influence the promotion of social and personality development.

Among the many other problems arising, mention should be made of the following, which are lessons to be learnt from current projects, with whose practical implementation they are concerned

- many research projects are simultaneously charged with tasks of curriculum development and the further training of teachers and - even when research teams are adequately staffed - are overburdened because of unsatisfactory division of labour within the action research strategy;
- whenever, in the course of vertical investigations, the results must be delayed until the completion of all the component parts of the inquiry (e.g. to avoid wishful thinking, or for reasons of educational policy), the action research concept is hampered, and in practice certain problems of communication between evaluator and teachers must then be ironed out;
- when at the planning and implementation stage of a project forms of test are simultaneously devised, they are often difficult to harmonize with the research time schedule. It should be

decided in advance whether the inquiry is to be carried out only after the new procedures are prepared or without waiting for them (in which case reference would be to other procedures);

- in many cases it is planned that parallel research shall start only after the project is put into practice. Here there is a need to determine whether the resulting time pressure still allows thorough investigation to take place and whether the conditions are still right e.g. for co-ordinating the necessary samples;

- in many projects there are a lack of specialists and a shortage of qualifications as regards scientific experience of methodology, especially in the independent field of evaluation. Serious attention must be given to providing a project with properly trained staff and allowing for fairly long "running-in" periods (this would also apply to staff changes en route); researchers must have opportunities of bringing their training up-to-date, and for all these purposes sufficient funds must be available;

- in the case of longer-term projects it may sometimes be necessary to take account of a shift of emphasis in educational policy, so that the formulation of questions - wherever this is possible - may be also be influenced by basic scientific problems;

- emergency situations may arise when the commissioning body expects research to produce rapid changes in current practice and discrepancies arise between planning and implementation. Expectations of the commissioning body and the researchers' possibilities should be carefully laid down at the outset and constantly co-ordinated by exchanges of information as the work proceeds;

- in many projects now under way the funds have been suddenly reduced. It should be recognized that this is a built-in risk - research projects should be constantly submitted to cost/benefit analyses - at present they seldom are.

6.2 The "Model Programme for Curriculum Development"

In many parallel research projects action research is intended simultaneously to cover the evaluation and development of curricula - an exercise which, as we have said, raises problems of its own. The model programme of the Deutscher Bildungsrat (see 3.1 and 3.4), with its concept of "internal evaluation", goes beyond this in that it rejects a separation between development and evaluation and dispenses with any external evaluation by independent research scientists, in order that curriculum improvements may be more effectively and rapidly attained. This process, however, through the increased "inter-professionalization" of the parties concerned, almost inevitably leads to a situation where developers, teachers and evaluators adjust to one another, gradually come to hold similar positive views on the curriculum and indeed identify themselves with it and its evaluation. The danger here is the creation of an immunization strategy against unwelcome criticism which might, for example, render it impossible for a curriculum under discussion to be turned down. Exclusively internal evaluation may be transformed into isolated "self-evaluation", designed simply to ensure acceptance of one's own assessment. This not only fends off criticism, but the evaluation causes a blind eye to be turned to perhaps better alternatives, prejudices other concepts and may in some circumstances even prevent improvements to one's own assessment. If this strategy is also accompanied by the rejection of "hard" criteria, e.g. objective measurements with the aid of tests, exactly that result is achieved which it is the object of all evaluation efforts to prevent. The curriculum is adopted purely as an act of faith and not as the result of a scientifically controlled process of development and improvement, which is the principal aim of any evaluation.

7. EVALUATION: SUGGESTED RECOMMENDATIONS

In conclusion, and as a resumé of some of the trends mentioned above, we shall briefly discuss a few proposals that might be borne in mind when drawing up recommendations for evaluation. A more thorough exposition would call for a structured methodology of evaluation.

Attention is drawn to the following requirements, revealed by a review of evaluation studies in the pre-school education field in the FRG:

1. Better information, on both sides, concerning the planning and implementation of evaluation

projects, care being taken, however, to respect e.g. the justifiable interest of the project groups in their copyright.

2. The initiation of basic research into the development of evaluation methodology (cf. Weinmann, Wenzel 1972; Wulf 1972; Achtenhagen 1973; Wolf 1973; Wiley 1973); founding of an appropriate research and training institution, perhaps at international level.

3. More precise definition of the methods, aims and functions of inquiries into evaluation, e.g. delimitation of social context and of the area of communication between evaluators and practitioners.

4. Development of aspects that will enable the proper emphasis to be accorded to given projects.

5. Need for international comparison of evaluation strategies.

Points 4 and 5 are worthy of more detailed examination.

(4) In the planning and assessment of evaluation projects certain aspects must be borne in mind which the responsible parties should think out and whose consequences for the existing state of affairs they should estimate. Projects may, e.g.

- be more politically or more theoretically scientifically oriented,
- be directed more towards affording practical help or more towards research,
- be designed to achieve short-term or longer-term changes,
- lean more towards formative process evaluation or more towards summative results evaluation,
- evaluate predominantly "open" or "closed-structure" curricula,
- demonstrate success criteria that are more general or more specifically related to learning achievements,
- be financed by commissioning bodies which attach varying importance to thorough evaluation methods, which often vary in cost,
- be planned and executed with or largely without paying heed to the cost/benefit effect,
- call for more frequent or less frequent reports and discussion of results between commissioning bodies and the other parties concerned.

Within these - and other - dimensions a project may be slanted more towards one pole than the other and accordingly be judged by how the advantages and drawbacks of the two poles have manifested themselves in practice.

(5) It is hoped that the present report, through international comparison, may chiefly contribute

- towards identifying and publicizing differences or similarities in the evaluation problems of the various countries,
- towards the adoption, in modified form, of successful solutions reached by other countries, or their use as suggestions for home consumption in ways better suited to local conditions,
- towards finding new solutions to problems on the home front (compared with those facing other countries) by means of an objective, arm's-length approach.

8. CONCLUSION

At the present time there is in the FRG a tendency towards a certain standstill - after the acceleration from 1967-73 - in curriculum development and evaluation in the pre-school education field. For some while now no new projects have been in sight. Although the altered political and financial conditions of the years 1973 and 1974 have certainly contributed to this situation, during a pause for breath the opportunity may nevertheless be seized, by "looking over the fence", of gaining fresh strength and developing new initiatives. It is desirable that future research should devote considerably more attention to the following:

- critical reflection on the possibilities and needs of evaluation before any project is started,
- detailed advance planning and timely implementation of the evaluation experiments intended, and
- critical analysis, when the project begins, of evaluation from the angle of cost/benefit effect, coupled with continuous examination of the work from that angle.

Impending reforms in the pre-school field will face educational scientists with hitherto unknown tasks. Whether these are successfully tackled will depend henceforth on the development of a suitable evaluation strategy and on training an appropriate number of research workers in its meaningful use.

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EVALUATION OF PRE-SCHOOL EDUCATION. RESEARCH IN THE NETHERLANDS

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INTRODUCTION PRE-SCHOOL IN THE NETHERLANDS

The Dutch kindergarten system, which attracts nearly all Dutch children of 4 - 6 years of age, has all the characteristics of a school system. Plans are being developed to integrate it fully with the primary school system. We can hardly call such an educational organization a "pre-school", which literally means something preceding real school. But since the term "pre-school" is internationally accepted as covering all forms of non-compulsory education organized for groups of children who, at 5, 6 or 7 years, go to a compulsory school system, the Dutch kindergarten must accept this classification.

On the other hand, the Dutch educational scene has recently seen a sharp rise in play groups for children from two and three years of age. These play groups often have educational goals, and it is interesting to know whether these goals are met and by what means. Accordingly it is our opinion that evaluation of pre-school education in the Netherlands should include the research done in the field of play groups and day nurseries. The information in this report has in general been grouped into two sections according to the age of the children in question; the two- and three-year-olds who may attend day nurseries or play groups and the four- to six-year-olds who attend kindergartens.

OUTLINE OF EXISTING PRE-SCHOOL EDUCATION PROVISION

Kindergartens

The Dutch pre-school system is based at present on rules for admitting children to a certain level at a prescribed age. These rules are applied by the national government to all schools.

Rule one: A child may enter kindergarten the day after his fourth birthday.

Rule two: A child may enter primary school in August if he is six years old, or will be six years old before October 1st of that year. A child must enter primary school at the age of seven.

The kindergarten facilities are widely used. About 85% of all four-year-olds and about 96% of all five-year-olds attend kindergartens.

Until 1974 parents were required to pay a small fee (Hfl. 4 per month), but since 1975 kindergarten attendance is free of charge. Parents have an unrestricted choice of kindergarten.

The average number of pupils in each class is somewhat below 30. Most of the children attend mornings (three hours) and afternoons (two hours) on Monday, Tuesday, Thursday and Friday. At lunch time most children go home. On Wednesdays schools are open only in the morning. There are 12 weeks of holidays during the year.

Since the various religious denominations in the Netherlands have used the school system as a major method of exerting influence on society, a majority of kindergartens (63%) still belongs to private (mostly denominational) organizations.

The distinction between the private and public sectors is becoming less and less important however, and therefore seems irrelevant to those interested in content and quality of education, since leading progressive schools, new ideas, new enthusiasm may be found equally in both sectors. There remains even so a constant struggle between all the various kinds of school to enrol as many children as possible. This struggle has been intensified because of the recent drop in birth-rate.

In areas characterized by the general fall in birth-rate and, in addition, by a migration of young families (e.g. from an urban to a more rural area), schools are facing the problem of losing too many pupils without sufficient replacement.

There are 45 kindergarten training colleges spread over the country. Admission to such a college requires one to have completed MAVO, an intermediate level of education, necessitating at least four years after primary school.

Three years of full-time study in a teacher training college are required for an ordinary diploma, and a fourth part-time year for the headmistress certificate. There are very few male students in these colleges. Due to the relatively short time the average kindergarten teacher remains in function - many of them leave after two or three years of teaching - there is a constant need for new teachers. The present yearly output of about 2,000 teachers is sufficient to meet the demand. Apart from some parents, there are no volunteers working in Dutch kindergartens.

The salaries of teachers in public and private kindergartens are fixed by the State. No local authority is allowed to pay more or less. The salaries depend on the type of certificate held, and on the age of the teacher (not on the number of years spent in teaching) and (for headmistress only) on the size of the school. Salaries of kindergarten teachers are about 75% of the average salary of their colleagues in primary schools.

Day nurseries and play groups

Since ca. 1870 day nurseries have existed on a small scale and have been mainly limited to the cities. Originally, most of the children attending were those of married and unmarried mothers, obliged to earn money for their families. Since 1955 more and more working and studying mothers (not necessarily unmarried) have been asking for places, although the percentage of working mothers in the Netherlands is still relatively low. It is estimated that no more than 20% of the mothers with a child or children under five years have a paid job outside the home. Financial reasons are no longer the only motive for parents to bring their children. Day nurseries are open during the day for children from 0 - 6 years of age.

Since 1967 there has been a totally new development with the establishment of numerous play groups, led by both professional staff and parents. The initiative for opening a play group mostly comes from a group of middle-class mothers, who often succeed in obtaining some financial support from local authorities. In most cases, only two- and three-year old children are admitted for two mornings a week. Parents pay fees of between Hfl. 2,50 and Hfl. 5,00 per morning, and the groups consist mostly of 15 - 20 children with two or three adults in charge.

In 1970 most of the day nurseries and play groups formed a new national organization (not bound to a particular denomination, which is a remarkable accomplishment in the Dutch education system) called Werkgemeenschap Kindercentra Nederland (WKN), which has its headquarters in Oosterbeek, near Arnhem. The organization WKN now groups 1,200 of these "kindercentra"* and has contact with 700 more "kindercentra" through regional organizations. The WKN is financially

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* The word "kindercentra" stands for both day nurseries and play groups.

supported by the Ministry of Social Affairs. Until the end of 1974 the child centres were subsidized by the national govenment only when they were located in areas of social need. In 1975 a start has been made with subsidizing on a more general scale. Estimates of the number of children going to play groups vary between 15% and 20% of the two- and three-year-olds. It is expected that this percentage will grow considerably.

The government is drafting a set of legal requirements. At present, each municipality has its own policy, regulations and subsidies.

A system of specialized training for pre-school personnel is to be expected in the near future. At present, there are various types of secondary education which include child care in their programmes. Most of the professional workers in our day nurseries or play groups have only a minimum of specialized schooling. Supplementary evening courses for the workers in child centres have been organized for three years now. The salaries and staus of child-care workers are low as compared with those of kindergarten teachers.

GENERAL PHILOSOPHY AND SOCIOLOGY OF PRE-SCHOOL EDUCATION

Kindergartens

Already in 1900 when the Dutch population totalled some five million, there were over a thousand schools for children below the primary school entrance age. Even earlier, in 1860, about 50,000 four- and five-year-old children (from a total population of 3,3 million) attended pre-school.

Until Maria Montessori influenced the Dutch pre-school system in the early twenties, most schools had based their educational programme on the work and "Spielgaben" of Friedrich Froebel. His principles were often implemented in a modernized, less structured and more individualized way, as a result of the efforts of the influential director of the teacher training school in Leiden, Wybrandus Haanstra.

In 1917 the Dutch Montessori Society was established, and a year later the first Montessori course for teachers in primary schools and kindergartens started in The Hague. The director was Mrs. C. Philippi who became a very influential proponent of Montessori's ideas and methods, but who had also many contacts with other leading personalities in the field, such as Decroly, Piaget and the Bühlers. She visited schools in many foreign countries.

Notwithstanding the founders' original intentions, the Montessori schools in the Netherlands remained a middle-class affair with a few exceptions in the big cities. In 1940 5% of the pre-schools followed the Montessori system, and 84% called themselves Froebel schools. The original name "bewaarschool" (keeping school) for all pre-schools had gradually given way to "Froebelschool" and "Montessorischool". Today the general name for all kindergartens is "kleuterschool" (the word "kleuter" meaning a child between four and six years of age). The percentage of Montessori pre-schools in the meantime has dropped to less than 4% due to the very many new ordinary "kleuterschools". Most of the "kleuterschools" follow a mixed curriculum. Apart from the historic influences of Froebel and Montessori and their Dutch "reformers", an anti-cognitive wave of "creativity" and "free expression" influenced the curriculum after the last world war. Other important influences came from a leading group of women pre-school specialists and, to a certain degree, from several publishers specializing in pre-school materials.

After the second world war, kleuterschool thinking and doing in the Netherlands became an almost exclusively female affair. Two very influential ladies were and still

are: Professor Bladergroen and Mrs. Nijkamp. During the last decade some male newcomers from the universities have taken an interest in Dutch pre-schools, mainly for reasons derived from the hypothesis that at pre-school age more can be done to overcome environmental handicaps. They have suggested curriculum reforms and have developed specific programmes for fostering language and cognitive development, as well as curricula for stimulating general motivation to learn among disadvantaged children and their parents. This effort includes a reform of the predominantly middle-class curriculum into one which is more sensitive to the actual circumstances, needs and values of the disadvantaged groups in Dutch society.

Pre-school education, at least for children from 4 - 6 years, has been valued positively by Dutch society at large for about 40 years, and its status is still growing. As a result, the system has become stable, well organized, and respectable.

Furthermore, the national situation has been favourable to the growth of a diversity of publishing houses specializing in pre-school materials. Not only are the original Montessori materials manufactured in the Netherlands, and then shipped all over the world, but there are also a number of other publishers who have stimulated many authors to create a rich variety of kindergarten materials.

From this, certain standards have resulted as to the quality of furniture, play materials, and materials stimulating perceptual and cognitive development. Comparative research in several countries may show these Dutch standards to be rather high: they have risen in the course of the last 50 years under the guidance of outstanding women, commerce and government. Perhaps such preoccupation with neatness and orderliness has had something to do with the development of our kindergartens into their present state. At the same time, one should realize that some people deplore the stability and the standards of the system: a too well organized system may become resistant to change and innovation. These people fear the system may lose its flexibility, creativity and enthusiasm.

Although equipment in most Dutch kindergartens is standardized and good, one is often struck by the great differences between teachers, both in "style" and "techniques" (cf. Beller, 1972), as well as in dedication. For example, the system does not prevent some teachers from spending all warm and sunny days outdoors, sitting on the edge of the sandbox chatting with a colleague, while the children amuse themselves. On the other hand, the system is not so established and rigid as to prevent certain teachers from helping their children to make fantastic creations from cheap materials. Perhaps this readiness to accept individual teacher preferences comes from the fact that nothing actually has to be learned or taught in Dutch kindergartens. It is very rare to see children being stimulated to learn to read or write, or to do written arithmetic. It has become a non-official rule that such subjects belong to the primary schools, and that kindergarten teachers should refrain from doing a job for which they have not been trained (which is true). The only exceptions to this rule are to be found in the Montessori schools (not even in all of them), in some progressive schools and in schools which are supported by some experimental body.

This rather rigid division of tasks between kindergarten and first grade of primary school has often been a source of complaint (mostly from kindergarten teachers and parents), especially since many of today's five- and six-year-olds seem eager to get on with reading, writing and arithmetic. People realize how artificial such divisions are, and that is why a future integration of kindergartens with primary schools has been planned by the educational authorities.

General philosophy behind child centres

Differences in style and techniques between child centre workers* are even more pronounced than those between kindergarten teachers. There is full freedom for programming the day, and the workers differ widely in background and training. Furthermore, parents who participate voluntarily add to these differences.

Working hours, accomodation and equipment differ considerably since no national or regional regulations exist regarding these matters. The educational quality of the child centres seems to be improving, due to training courses, an increased exchange of different views on standards for child centres, the publications of the national organization WKN, etc.

The number of play groups increased as a result of the examples given by mothers in Wageningen and Arnhem. Their initiative and philosophy were welcomed by mothers in other parts of the country. The motives for organizing play groups were manifold. Two groups can be distinguished: child-orientated motives and mother-orientated motives. The first group includes, in particular, the need for playing with large and noisy materials, the need for playing with other children of the same age, the need for a stimulating environment which is different from home. The second group includes a mother's need for time to do other things than just housework and taking care of her child(ren).

Advantages for both mother and child (and the family) are to be expected, it being supposed that their relationship will profit from their living in different atmospheres for some part of the day. Parents are also thought to receive help from the child centre in their educational task, e.g. through learning about new play materials, through hearing a different view on their child's character and problems, and through seeing their child interact with other children and adults. Exchange of opinions on common problems is seen as an important function of the child centre for both mothers and fathers. Regular parent meetings are organized for this purpose.

The demand for "parent participation", which for the present seems to remain a dream for most schools in the ordinary school system, seems to have its best chance of being realized in this unofficial world of child centres.

Sociological factors behind child centres

The sudden growth in the number of child centres (mainly play groups) since 1967 raises questions of a sociological nature.

One reason for this growth probably lies in changing housing and living circumstances. The size of the family has diminished so that children need more child contact outside the home. Blocks of flats give children fewer possibilities for rough and tumble play. Traffic has become so dense that nearly all streets or fields with streets around them have become too dangerous for young children to cross or play in.

Another reason lies in changing opinions on how to raise children. Much publicity has been given to experiments and viewpoints on early stimulation. Child centres were equipped to give this stimulation. Parents felt their children should derive benefit

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* In English we know no better word for a function which is a mixture of giving care, nursing and teaching. We cannot call child centre workers "teachers", nor can we call them "care givers", although they do both. In Dutch the feminine word "leidster" is preferred. In English the (masculine sounding) "worker" seems the only solution to the dilemma.

from these extras. Another educational factor seems to lie in the fostering of early independence in the child. Dutch children of the 70s seem more independent and self-confident at an earlier age compared with children of the 50s. The child centre fits well into this pattern of striving for independence at an early age. It may be, however, that this endeavour is strongest in middle-class families.

A third reason for the growth in the number of child centres lies in the changing philosophy as regards the role of women in our society. Although the percentage of married women with a paid job outside the home is in the Netherlands low compared with other European countries, there are strongly held opinions about "liberation", and women's lib protests are often heard. Most women, however, who are active in establishing child centres, strive for more opportunities for the children in the first place and for women in the second place.

It is hoped that more part-time jobs will become available in which mothers can do satisfying work. With the level of education of mothers rising at present, the demand for part-time jobs after childbirth will probably become stronger. The fact that unemployment figures in general are rising in the Netherlands seems to run contrary to this hope.

In a recent article (Wagenaar, 1974) one of the present authors described the various functions child centres fulfil in our society. She distinguished recreational, educational, health, relational and labour market functions.

ON DIFFERENT FORMS OF EVALUATION

In one of the newest and largest experimental pre-school projects in the Netherlands (GEON, 1974; see page) much time and energy is spent on distinguishing, describing and planning all the various forms for gathering and evaluating information which will help policy-makers to take decisions. To quote: "In essence, evaluation is a process of producing and judging information. For this process to take place it must be decided (1) what information is needed, (2) how it can be obtained, (3) how it must be processed, (4) where it must be delivered, (5) in what form, and (6) who shall judge it, (7) using what criteria (....). This whole procedure must make better decision-making possible; the question whether decisions actually will be made on the basis of this information is a different one."

Policy-makers may be found at all levels; the staff of a unit carrying out some experimental innovation in a pre-school, a schoolboard which has to decide whether to continue an experiment in which four- to seven-year-old children are being taught in mixed instead of in homogeneous age-groups, a programme committee of a political party having to decide whether to include the extension of play group facilities in the new party programme.

What is being evaluated in the field of pre-school education? In a country where facilities exist for all children from four to six years of age to go to a kindergarten, and where the system as such is taken for granted, few persons question the value of the existing system. It is only when proposals are made for major changes, such as integration with the primary school system or lowering the kindergarten entrance age that value questions are raised. The dissatisfaction which some people showed with the effect of the existing kindergarten system on children from poor economic and cultural backgrounds may have led to experimental innovations, but has not led to a direct evaluation of the existing system itself.

Indirectly, in the process of assessing the effect of the experimental innovations, the existing system must be valued too. The importance of the differences between the two sets of "results" may lead decision-makers to implement the innovations on a wider scale.

In the Netherlands there is no research to evaluate the existing kindergarten system as such. Although this system costs a lot of money and although it may be that many children do not really profit from going to kindergarten (we think they do, but nobody has ever proved it), its abolition is unthinkable, since it has come to be part of the cultural system. Thus only experimental changes are evaluated, just as is the case with compulsory education from six years upwards. The same is doubtless true for compulsory education in other countries.

A totally different picture emerges for the two- and three-year-old children and their play groups and day nurseries. Since only about 15% - 20% of all children of this age-group attend such institutions one or more days a week, and since some groups in our society are asking the government for more money in order to extend these facilities, the government itself is asking for evaluation studies: will expenditure in this area be worth-while?

Evaluation may relate to changes in child behaviour or parent behaviour, but it may also relate to opinions held by teachers, parents or specialists. Not only may the final behaviour patterns or opinions be evaluated, but also the processes leading to these final goals; teacher training may be evaluated as such an intermediate goal. More basically, data concerning the motives and expectations of parents who bring their children to a play group or day nursery may be collected and evaluated in comparison to the actual outcomes.

Thus there is more to be evaluated than just changes in the children's behaviour, and decision-makers often take all these aspects into account.

Hard and soft data

In the early sixties the quest for hard data - quantifiable data on behaviour collected in a standardized situation by reliable methods - intensified among Dutch educational innovators. Assessments of achievement in reading and arithmetic in the lower grades by means of objective tests became prime criteria for evaluating pre-school programmes.

The North American examples were followed. Intelligence and school achievement tests were used to evaluate any after-effects, because those were the aspects for which an objective assessment methodology had been developed. We all knew there were more aspects of human behaviour we wanted to stimulate and evaluate, such as motivation for learning, concentration, creativity, thinking, frustration tolerance, etc., all of which seemed crucial for success in school, but there were no cheap methods available to assess these aspects.

After some time this led to feelings of frustration amongst both teachers and researchers. They felt that what was measured during the test sessions was not the behaviour they were really interested in. At the same time, the early 70s, radical leftist views on the existing school system as a conservative instrument and on tests as middle-class inventions to keep the lower class down heightened the general negative feelings about the data collected for evaluation purposes.

In recent years a reappraisal of various forms of soft data - opinions (verbal) on and descriptions of behaviour and situations - has been the reaction. But since the methodology for describing events has not been developed into a skill with precise quality norms, it is not held in respect by those who prefer the safety of hard data. As a result no new agreement on the preferred evaluation methods has been reached, and, in practice, psychometric instruments continue to be used in most evaluation programmes.

EVALUATION OF PRE-SCHOOL IN GENERAL

Kindergartens

As has been explained above, in the Netherlands no research has been done to evaluate the existing kindergarten system as such. Therefore all research pertaining to the kindergarten is given in the section "special programmes", though the scope of these "special" programmes may be very general indeed.

Child centres

Research pertaining to child centres is mostly reported to the research information centre of the WKN; It is also the purpose of this information centre to stimulate research and the exchange of research information. Below we report current research under four headings:

1. evaluation of the effects of child centres,
2. collection of information concerning how certain centres work and in what respects centres differ,
3. investigation of parents' motives for sending their children to a child centre,
4. observations of child behaviour and worker behaviour and the interaction between them.

(This fourth group is a sub-division of the first two, in the sense that the information gathered by this type of research is needed for both.)

1. Evaluation of the effects of child centres

i. Project Proefkreche '70 in Amsterdam

This project was started in 1969 at the request of the Ministry of Cultural and Social Work to investigate how a day nursery could contribute towards the favourable development of children under four years of age from unskilled or semi-skilled families.

Although the majority of the children in the project were to come from this background, it was considered desirable to include a smaller group of children whose parents had had at least 12 years of schooling, in order to permit a comparison of development.

The project also aimed to design, evaluate and propagate programmes and activities suitable for children of this age-group, as well as to contribute towards the improvement of the quality of work in day nurseries and play groups in general.

The following tests were used for measuring general and cognitive development: the Bayley development scale, the Stutsman Merrill-Palmer scale, the Stanford-Binet intelligence scale and the AKIT (Amsterdamse Kinder Intelligentie Test) for children in the age range 4 - 6 years. Only the AKIT had standardized norms for Dutch children. Two Dutch tests were used to measure the children's vocabulary, one of which had been standardized on a sample of the population of Utrecht. All tests were administered under standardized conditions in the presence of the child's mother. Standardized interviews were held with the parents (every six months) and with the kindergarten teachers of the schools attended by the children after they had left the project. Finally, standardized progress reports were gathered from regular meetings at which individual children were discussed.

Since children could not be assigned to experimental and control groups in a random manner, the research design was not a truly experimental one. For this reason the terms "project group" and "comparison group" were used instead of the terms "experimental group" and "control group". The project group consisted of about 50 children, the comparison group of about 80. The latter was formed from children who did not attend any kind of day nursery and who were brought up exclusively at home. The comparison group was chosen from some 400 families, identified mostly through municipal services for babies and infants. This group was matched with the project group for a number of factors: parents' education and occupation, sex, age, order of birth. All children were tested at about the same age, in the presence of the mother or father. When a project child entered kindergarten (i.e. left the nursery), two new comparison children were selected from the class the child joined. The children in kindergarten (both ex-project children and comparison children) were tested in school.

Data will be analysed for about 50 project children (and their "controls") at age 3.11, 30 children at age 4.11 (after one year of kindergarten) and 20 children at age 5.11 (after two years of kindergarten). The results will be available at the end of 1975.

The second set of goals of the project, i.e. to design, evaluate and propagate programmes and activities and to contribute to the improvement of the quality of nursery education in general, has to be evaluated by other means. Descriptions of the outcome of these innovative endeavours will be ready by the end of 1975, but their final evaluation will be made in the years thereafter, by people in the field of play groups and day nurseries.

For further information, contact the project director:

Mrs. G. J. van der Lem,
Weteringschans 104, Amsterdam.

ii. Project play group "Harkema-Opeinde" (province of Groningen)

The developmental retardation among six-year-old children in the former fen districts of Groningen constituted the motive for this project. In addition to a family-oriented programme, a play group was set up to stimulate children at an early age.

Sixty-five project children are compared with an equal number of children in a comparison group. Tests are given before entering the play group, before transition to elementary school, and at the end of the second grade. The tests used are a Dutch vocabulary test, the Stutsman (Merrill-Palmer), the AKIT (Amsterdamse Kinder Intelligentie Test) and a word test.

Final report in 1980.

For further information, contact:

Drs. M. van Duinen, Westerweerddijk 10, Pieterzijl.

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iii. The influence of a few Nijmegen child centres on the behaviour of children in kindergarten (van den Munckhof, 1973)

Information was obtained on 68 four-year-old children after one month in kindergarten. Behaviour of children having been to a child centre was compared with behaviour of children who had not attended a centre. Children used for comparison were matched pair-wise on a number of variables. Children came from various child centres and were spread over various kindergartens. Kindergarten teachers filled in questionnaires concerning motor development, social development, verbal development and independence.

Differences between groups were small. Most significant was a difference in (perceived) independence. Children having been to a child centre were reported to be more independent.

For further information, contact:

WKN, Graaf Rechterenweg 53, Oosterbeek.

2. Collection of information on how centres work and differ

Differences between child centres and possibilities for measuring these differences (van Rijswijk & Semmel, 1972; revised edition 1973)

This is one of the studies pertaining to child centres which Drs. Lily van Rijswijk of the Sociological Institute of the University of Amsterdam has initiated. (Mrs. van Rijswijk is also chairman of the board of Project Proefkreche '70 described above). Another study concerns the attitudes of the teachers to their work.

Nine centres in middle-class areas of the city of Haarlem were compared as regards goals, structures and functions. In the report different types of centre were distinguished. There was little correlation between functions and goals. Suggestions were made for improving techniques for measuring goals and functions.

For further information, contact:

Drs. L. E. van Rijswijk, Institute of Sociology, University of Amsterdam, Korte Spinhuissteeg 3, Amsterdam.

3. Investigation of parents' motives for sending their children to a child centre

i. Psychological factors determining the use made by parents of child centre facilities (Ministry of Social Affairs & Ministry of Culture, Recreation, and Social Welfare, 1974)

At the request of the two ministries, a national survey was undertaken by a commercial marketing bureau. In a pilot study an attitude scale was constructed for measuring opinions on child centres. 1,600 mothers were interviewed.

For further information, contact:

Institute for Psychological Marketing Research, Nieuwpoortweg 2, Schiedam.

ii. Motives for early education in child centres and kindergartens

A pilot study has started in which interviews are conducted and information is gathered to develop an instrument for assessing:

a. the motives of parents for sending or not sending children to child centres or kindergartens,

b. the goals of workers in these institutions,

c. the goals of teacher training colleges and of child centre courses.

For further information, contact:

Kohnstamm-Institute for Educational Research, Keizersgracht 73, Amsterdam.

iii. Motives of play group parents in Haarlem (Bruyel & de Goede, 1975)

The motives of parents who brought their children to a play group are compared with the motives of those who stopped bringing them, and with the motives of parents whose children were on a waiting list. Motives particularly mentioned by the parents were: the possibility for their children to play, especially with other children; the stimulation of development; difficulties encountered in bringing up their children (about 50% of the parents), in part connected with expectations concerning an improvement in their children's behaviour.

For further information, contact:

Nederlands Instituut voor Kinderstudie, Statenlaan 24, Den Haag.

iv. Child centres in Utrecht (van Doorne, 1971)

400 mothers having at least one child between 0 - 4 years of age were interviewed on child centres in particular and on job and life satisfaction in general. A recommendation to the municipal authorities resulted from this research as to the areas of Utrecht most in need of child centres of a particular kind. A content analysis of the different kinds of motive and opinion was made.

For further information, contact:

Drs. van Doorne, Institute of Sociology, University of Utrecht.

v. The need for child centres in an Amsterdam district (van Rijwijk, 1974)

200 mothers of young children were extensively interviewed on their family situation. The aim of the research was to explore the need for child centres in connection with background variables, problems in the family and certain factors such as knowledge and opinions about child centres. A follow-up study examined whether those mothers who had expressed the strongest need to send their children to a child centre did in fact do so after the centre was opened. "Bringers" turned out to come mainly from those who (1) mentioned spontaneously the need for a child centre, (2) were fairly sure that they would make use of a child centre and (3) who had one or more specific problems. Only 15% of the mothers who had said they would make use of a child centre in their neighbourhood really did so once a centre was open.

The research produced some indications for a theory on class differences concerning the need for child centres.

For further information, contact:

Drs. L. E. van Rijswijk, Institute of Sociology, University of Amsterdam, Korte Spinhuissteeg 3, Amsterdam.

vi. The functions of play groups in the province of Drenthe

In ten towns and villages in Drenthe a survey was conducted among parents of children under four years of age. The main purpose was to gather opinions with respect to family situation, early childhood education and play groups. The sample consisted of 500 families, chosen at random, both from those who sent their children to play groups and from those who did not. Representatives in municipal councils were also interviewed. The report is to be expected in 1975.

For further information, contact:

Mrs. D. de Vries, Ambachtsstraat 12, Borger (Dr.).

4. Observation of child behaviour and worker behaviour and the interaction between them

i. Observation of negatively valued behaviour among children in day care

Research was done by Maarschalkerweerd and van Bekkum in the Amsterdam project "proefkreche" to gather and analyse coded behaviour samples. The focus was on problem behaviour like aggression and withdrawal. Negatively valued behaviours occurred so seldom that event sampling had to be preferred to time sampling.

For further information, contact:

Proefkreche '70, Weteringschans 104, Amsterdam.

ii. Sequential analyses of data on ethological observations of young children (Bodnar & van Baren-Kets, 1974)

Data were gathered on 165 children in five play groups. A total of 57 behaviour patterns were studied which can be grouped under the headings: facial expressions, locomotion, vocalization, head postures, gestures and contact.

A well-known Dutch psycholinguist, Levelt, helped the researchers to develop a probabilistic grammar for some of the behaviour patterns studied.

For further information, contact:

Nederlands Instituut voor Kinderstudie, Statenlaan 24, Den Haag.

EVALUATION OF SPECIAL PRE-SCHOOL PROGRAMMES

Kindergartens

For this report we have chosen to describe briefly six major projects which, at the moment, are being completed, carried out or prepared. A project which came to a close in 1971 has been described by de Vries (1972, 1974).

i. Utrecht: the GEON project

This project was initiated by Dr. Anthon de Vries who was also one of the members of the Utrecht experimental programme for compensatory education (see reference above).

The first activity in this project is to select at age four, in their regular kindergarten classes, children who are and in the future probably will be low-achieving pupils, and to train their regular teachers to interact with these children in ways consonant with the individual needs of each of these children.

In four cities (Amersfoort, Arnhem, Enschede, Hilversum) six kindergartens have been selected which have a high chance of containing low-achieving or "high risk" pupils. In 1976 a second group of 24 kindergartens will enter the project. The WPPSI intelligence test is used for selecting the children; those scoring below one standard deviation under the mean will be taken into the programme. In each city children from six other kindergartens, with equally low scores, will serve as comparison subjects.

The project is aiming primarily at changing teacher behaviour by expanding the teacher's repertoire. For this training model inspired by the Far West Laboratory in San Francisco is used. This model contains three mini-courses for individualized instruction. In the first mini-course the teacher is taught behaviour modification techniques. The second mini-course a teacher follows is directed at fostering an independent attitude in the child. The third course aims at teaching strategies. In order to evaluate the effect of the courses, relevant items of teacher and child behaviour are counted by an observer, using the Flanders observation categories and scoring methods.

The project is co-operating with Mr. Maxwell of CERI-OECD in Paris who co-ordinates research pertaining to the use of the Far West Laboratory mini-courses in Europe.

Apart from teacher training, the project GEON aims at the intensification of parent-school contact and co-operation. This aspect of the project will be evaluated by counting the number of contacts, by verbal descriptions and by interviews with the parents.

To foster verbal and cognitive development, series of stimulating activities have been developed, based on the most promising parts of the former Utrecht language and thought programme, a programme developed by Carl Bereiter (Toronto) and the work of Marion Blank (New York). Criterion-referenced tests were developed, and each series of activities has its own pre- and post-test.

The summative evaluation of the progress made by the children will consist of WPPSI scores at the end of kindergarten and WISC and school achievement test scores in the first and second grades of primary school.

The children and their teachers will receive continuous help during the first two years in primary school from the established educational service organizations. Classroom management techniques and remedial teaching techniques will also be brought into the in-service training of primary school teachers.

A last aspect to be evaluated in GEON is the co-operation between the central research staff, the innovation teams in the four cities, and the regional educational service organizations.

The project is important for studying problems of innovation and change on a larger scale.

In August 1974 the first children from the city of Amersfoort entered the project.

For further information, contact:

Dr. Anthon de Vries, Nieuwe Gracht 36, Utrecht.

ii. Nijmegen: fostering social development

Social decentering is being learned in a programme aimed at social development. The programme was initiated by Dr. Cees van Lieshout who is carrying it out along with Drs. Leckie of the University of Nijmegen.

Social decentering is seen as synonymous with "role taking" and is defined as a social, cognitive and perceptual process by which, in a given situation, one's own behaviour is being influenced by viewpoints held by somebody else in that situation.

Children of different ages and from different types of school are participating in the project. The children are selected from middle-class areas of the city of Nijmegen. From each age-group between three and eight years 16 experimental and 16 control children have been selected from those play groups, kindergartens and primary schools which volunteered for participation in the project.

The programme, designed to foster social behaviour among children in the play groups and kindergartens, consists of seven units. During an experimental period of three months, four days a week, 30 minutes per day, the teacher gives about equal and recurrent attention to all seven units. The units are:

- one's own and others' names,
- words for spatial orientation of oneself and others,
- stories about people, how they are likely to feel and act in the situation described,
- the same, but making use of photographs and puppets,
- matching facial expressions in lotto games,
- group games,
- role playing.

Each of these units was tested separately in a short-term experiment with small groups of children, using a post-test control group design.

For evaluating the over-all effect of the programme, a role taking test was developed and standardized on a Nijmegen sample. This test is to be administered individually and has three parts: perceptual role taking, emotional and motivational role taking, and conceptual role taking. The pre- and post-test design also includes observations of social behaviour in standard situations and measures of popularity.

The programme was conducted in the first half of 1974. Data was analysed in the second half of 1974. Reports are to be expected in 1975.

For further information, contact:

Drs. G. Leckie, Catholic University of Nijmegen, Department of Developmental Psychology, Erasmuslaan 16, Nijmegen.

iii. Early detection of and assistance to children (4 - 8 years) who experience learning difficulties at school

This project has much in common with the GEON project and is a joint venture of three institutions:

- the Department of Developmental Psychology and Special Education of the Free University of Amsterdam,
- the Department of Child Health of the Netherlands Institute for Preventive Medicine TNO in Leiden,
- the School Advisory Centre of the 's-Hertogenbosch district in 's-Hertogenbosch.

The Department of Developmental Psychology and Special Education has developed a programme to foster abstract thinking and diagnostic teaching and part of the diagnostic instruments for evaluation. The Department of Child Preventive Medicine has developed a sequential testing programme, both psychological and medical, of which a new test battery (The Leiden Diagnostic Test) and an extensive neuropediatric examination technique are the main elements. The School Advisory Centre makes available the schools and personnel necessary for the implementation of the programme and the diagnostic instruments.

The general aim of the project is to detect at age four and five years those children who, without early remedial teaching or medical help, probably will show learning difficulties in the first grades of primary school, and to develop and test a remedial and medical programme geared to prevent later malfunctioning.

The programme, developed by Drs. Han Groenendaal and Niek den Hartog (among others) is based on the views and work of Dr. Marion Blank. It consists of three parts: (1) cognitively directed perception; (2) symbol use and symbol processes (language); (3) problem-solving processes and strategies. Typical of Blank's approach is the individual tutoring in a Socratic-type dialogue and the use of simplification and expansion techniques. The teaching of the programme contents is done daily in short (10-15 minute) periods during normal kindergarten hours, both by the regular teacher and by specially trained remedial teachers.

As for teacher training, micro-teaching is used for training in a number of specific skills ("diagnostic approach"): gaining insight into the learning behaviour of children (especially error sets); optimizing the level of teacher-child interaction and of differentiation with regard to the various groups of children. Videorecording is used for discussion of teacher behaviour, for classifying behaviour, and for analysing changes in ways of interacting with the children.

Several parts of the programme were pre-tested in the school year 1972-73, but some parts (problem solving) will not be ready before 1975. Children from the first experimental period are already being followed up in the first grade, but the experimental groups starting in 1974-75 will be the first ones to receive the full programme and methodology and to yield a full set of evaluation data.

For implementation of the programme, normal kindergartens from low-income areas of 's-Hertogenbosch were chosen together with three kindergarten classes of schools for special education. It is estimated that about 40% of the children from the normal kindergartens in these low-income areas will fall below the critical score on Dutch school readiness tests and will show serious learning problems in primary school. However, the programme is given not only to this 40% but to all children in these classes. Control subjects are chosen from similar schools and classes.

The sequential testing programme, developed by Drs. Hans Schroots, consists of a psychological and a medical part. As far as the psychological part is concerned, pre-school children were tested firstly by means of group school readiness tests (Dutch adaptations of German tests), secondly by individual tests, combined in a test battery (LDT). This test battery is the main instrument for the early detection of learning difficulties, besides the evaluation of the programme previously mentioned. The eight sub-tests of the LDT, based on the Channel and System theory of Henry Mark (Mark, 1962), include the WPPSI sub-tests "comprehension" and "block design", the sub-test "paper folding" from the Hiskey-Nebraska test of learning aptitude, the revised Knox Cube Test of Grace Arthur's point scale of performance tests, a Dutch reading prediction test (Form a and b) developed by Groenendaal and Schroots, and a Dutch story-retelling test (Form a and b) developed by Reesink. Children were tested, and standards and limits established. Preliminary results, provided by factor analysis, showed three factors: (1) verbal comprehension, (2) pattern perception (spatial and temporal relationships) and (3) memory.

The medical programme consists of two steps: firstly all children were subjected to a school medical examination, and afterwards certain children were subjected to an extensive neuropediatric examination, based on the work and theory of Touwen and Prechtl (1970).

Changes in child behaviour will also be measured by using a Dutch behavioural check-list (Schobl) to be filled in by the teacher. Changes in teacher behaviour will be measured by analyzing aspects of teaching behaviour in a standardized situation (KINOK). Finally, data are collected about the child's behaviour at home by means of a check-list (GOI), filled in by the parents.

During the follow-up study several school achievement tests, besides behavioural check-lists, are being used. A full account of the results will be given in 1976.

For further information, contact:

Drs. Han Groenendaal, Free University, Department of Developmental Psychology, Koningslaan 22, Amsterdam,

and

Drs. Hans Schroots, Netherlands Institute for Preventive Medicine TNO, Wassenaarseweg 56, Leiden.

iv. The ABC-RITP innovation project

Since 1970 in Amsterdam a team of educational innovators has been active under the direction of Dr. Co van Calcar. Although most of its energy is directed towards the primary schools, the innovation team has also given much attention to the kindergartens in two areas of Amsterdam. These areas have a predominantly working-class population, and the low average level of school achievement in the primary schools in these areas formed the rationale for the innovation activities.

The project has become a joint venture involving the municipal school advisory centre (ABC) and the Research Institute for Applied Psychology at the University of Amsterdam (RITP).

The innovation activities are based on a philosophy that only by bringing together the school, family and neighbourhood can lower-class children have a chance to profit from the educational facilities made available by the school.

The belief that the prevailing curriculum in these schools was alien to the values, needs and experiences of children living in a big city low income area led to a renovation of this curriculum. Starting points lie always in the daily experiences of the children, and in this respect the teaching methods resemble those of Freire and others. The leader of the team, Co van Calcar, was inspired by the French Centre d'Entrainement aux Méthodes d'Education Active (CEMEA) which has been influential in changing the educational activities in French holiday camps, children's homes and schools. Accordingly, the belief that the child's own activity and creativity are the only potent instruments for learning is basic to the curriculum which this team developed for the Amsterdam kindergartens.

A series of volumes containing "suggestions for teachers" was composed around themes such as "home", "celebration", "shop", "market", "eating", "traffic", "post office" and "the four seasons". The kindergarten teachers are being helped to work with these and other new materials.

As regards evaluation, the main accent is on school achievement test results in the primary grades. So far, no substantial changes in test results have been found which could with certainty be ascribed to the activities in the kindergartens. But innovation and evaluation will be continued for several years to come. For the evaluation of changes in child behaviour in the course of the kindergarten year, a behavioural check-list is being developed based on teacher opinions.

For further information, contact:

Dr. Co van Calcar, RITP, Prinsengracht 299-307, Amsterdam.

v. The project "Overgangsklassen" (transition classes) of the Department of Special Education of Nijmegen University

In 1968 Dr. Dumont and Dr. Kok of Nijmegen University started a project which has become influential in Dutch remedial teaching at the pre-school and primary school levels.

A programme was developed and published by Dumont called "Curriculum Schoolrijpheid" for children aged six and seven years who failed on the behavioural criteria for starting formal schooling in the first grade. Dumont's programme is a multi-faceted total curriculum in which the theories and works of a diversity of authors (Piaget, Strauss-Lehtinen, Cruickshank, Kephart, Frostig, Bladergroen, Borel-Maisonny, Picard and others) are integrated.

In Nijmegen and several places in the Nijmegen area, children are selected at the age of five years, a few months before their transition from kindergarten to primary school. Children selected on the basis of a screening test battery are invited to attend a special class organized at one of the primary schools of the district. There they receive the remedial programme during their first school year in groups of twenty, under the guidance of specially trained remedial teachers. No children are admitted who score below 85 on the WPPSI, or above the norm on the Nijmegen School Readiness Test (NST).

The experimental years 1968, 1969 and 1970 were evaluated by means of tests, questionnaires and interviews. In the first year, 20 project children were compared with 16 controls. In the second year there were 18 project children and no controls. In the third year 63 project children were compared with 49 controls. There has been a gradual change from general summative tests to criterion-referenced specific tests, which were applied in the third experimental year. On all tests only small differences were found, most of which could be ascribed to uncontrolled factors.

The parents of the children in the special classes are pleased with the programme, however, and the education system in the Nijmegen area is proud to have this new provision. Most probably this kind of evaluation will outweigh the negative test results so that the programme will be continued all the same.

For further information, contact:

Dr. J. J. Dumont and Dr. L. Stevens, Institute for Orthodidactics, University of Nijmegen, Erasmuslaan 40, Nijmegen.

vi. A project studying the problems connected with lowering the entrance age to kindergarten

At the request of the Secretary of State for Pre- and Primary School Education, a research committee was formed to advise on the desirability of lowering the kindergarten entrance age in the Netherlands.

As we have mentioned above, nearly all Dutch children go to kindergarten from their fourth birthday on, and the question is now whether younger children too should be allowed to attend. The advisory group came to the conclusion that this would not be a very sensible thing to do. Rather, the group would like to see an extension of the play group and day nursery provisions for children below four, and an amelioration as regards quality. The classes of the existing kindergartens were considered too large for three-year-old children, and the teachers were considered inadequately trained for this particular age-group. Rather than let the three-year-olds try to adapt to the provisions established for four- and five-year-old children, the group advised that more money be put into a system specifically designed for children of two and three years. The arguments partly are the same as those in Great Britain in the controversy between the play group movement and the regular infant school system. These arguments involve the question of which system is better for promoting relations with the parents of the children.

In the Netherlands like in Great Britain, the chances for parent participation were thought to be better in the play group and day-care setting than in the kindergarten or infant school system. As yet (July 1974) it is uncertain whether the Dutch government will take action in accordance with or contrary to the advice given in the advisory group's report.

For further information, contact:

Kohnstamm-Instituut for Educational Research, Keizersgracht 73, Amsterdam,

and

Stichting Kreche en Wetenschap, Weteringschans 104, Amsterdam.

Play groups and day nurseries

i. Parent participation and verbal development in play groups

With the help of the Department of Linguistics of the University of Amsterdam, research is being carried out in Haarlem in which the effect of play group attendance on verbal development is studied. Two groups of children from two different play groups are compared with children who do not attend a play group. The role of the parents in the play group is considered as an important variable. The report will be published in 1976.

For further information, contact:

Drs. R. Gerstel, School-Advies-Dienst, Schotersingel 9, Haarlem.

ii. Attention of two- and three-year-olds to stories presented audio-visually

As an experimental alternative to live story telling, colour slides and cassette-tapes were prepared for a set of 30 stories. For 30 minutes twice a week for three months the stories were presented to two groups of two- and three-year-old children. The two groups differed in the role the supervising child-care worker took: an activating or non-activating role. Every 16 seconds each child was rated on:

a. being present in the viewing corner or not,
b. when present, watching the screen or not.

The main goal of the experiment was to develop a methodology for studying attention at an early age in the child centre situation. Effects on language proficiency resulting from attending the audio-visual presentation could not be studied.

For further information, contact:

Prof. G. A. Kohnstamm, Rijksuniversiteit te Leiden, Rijnsburgerweg 157, Leiden.

iii. Programme fostering social development

See above: "Nijmegen: fostering social development".

iv. Evaluation of training courses (Würdemann, 1974)

In 1973 about 1,500 day nursery and play group workers participated in several kinds of training course. The courses given by the WKN were regularly evaluated using questionnaires, attendance registers, and opinions expressed at teachers' conferences. Workers reported having acquired more insight into the background of their work, more understanding of children, and many new ideas for activities with children. Many workers also reported an improvement of their contacts with parents as a result of the courses. Eighty per cent of the workers wished to continue their training.

For further information, contact:

Liesbeth Würdemann, WKN, Graaf van Rechterenweg 53, Oosterbeek.

v. A project to develop new goals for training day nursery and play group workers (Kleerekoper, Kuchlein et al, 1974)

At the request of the WKN, an advisory committee was formed which brought out a report in May 1974. Goals were formulated for a new form of training both of a general level and in behavioural details.

The report deals with all the aspects of the work in play groups and day nurseries and puts emphasis on the role the day nursery worker plays in the education system at large. In the report the intricate social and emotional complexities of the job, in dealing with children, parents and fellow workers, are illustrated with examples from daily practice. In addition, an extensive but not unrealistic list of behaviours is given which are thought to be instrumental in fostering development in the children being cared for.

It is hoped that this report will be followed by action to create a system for training the day nursery and play group workers in the future.

For further information, contact:

WKN, Graaf van Rechterenweg 53, Oosterbeek.

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EVALUATION OF PRE-SCHOOL EDUCATION: RESEARCH IN SCANDINAVIAN COUNTRIES

Isto Ruoppila

INTRODUCTION

In all Scandinavian countries attention is being increasingly paid to the quantitative increase and the qualitative development of early education, the clearest indications of which are the recently amended laws concerning early (nursery and pre-school) education in more than one country. All countries have recently started to prepare educational programmes, in the first instance for five to six year-olds. However, the individual teacher, with her basic training and later-acquired knowledge and skills, still has the prime responsibility for planning and putting into effect the broad guidelines of programmes. Therefore, it has been difficult to study the results of nursery education, as the independent variable is not sufficiently known.

As is evident from this review, there is very little wide-ranging research which evaluates the results of early education; where it does exist, some specially prepared programme intended for experimental purposes has almost without exception been used. Because this research has been carried out recently, little can be said on the basis of research findings about the possible long-term effects of early education. At present there are several research projects in progress, the purpose of which is to further the development of children in some specific area. It should be noted that in Scandinavian countries the amount of information that has been gathered, in particular about the effects of systematic programmes on the development of children from deprived surroundings, is exceedingly scanty. Little research has been done to clarify the problems of compensatory education.

The present review will deal in general terms with the main factors affecting the development of early education in the Scandinavian countries. The present situation and the aims of early education will be presented for each country separately. Finally, the research concerned with the effects of pre-school education will be described and evaluated. The information concerning the present situation and the goals of early education is partly based on the Scandinavian report "Pre-school project: Report on the activities in Nordic countries" (Vedeler, 1974), and partly on the survey of Scandinavian research concerning early education (William-Olsson, 1974 b).

BACKGROUND

FACTORS AFFECTING EARLY EDUCATIONAL PROVISION IN SCANDINAVIAN COUNTRIES

In every Scandinavian country early education has been based on two different principles which have long since led to different solutions, but which have in the last few years led to a merging of the two approaches. On the one hand, early education has been based on principles of social care, and whole-day care has been arranged for children who for socio-political reasons need it. In consequence, the emphasis has been on the health and physical development of the child, while programmes designed to aid mental development have been lacking and have depended on the initiative and knowledge, as well as the skill, of the individual teacher. On the other hand, half-day care was established for five- and six-year-olds in order to make the change-over to school easier, compulsory education starting in the Scandinavian countries in the autumn of the year in which the child reaches the age of seven. In the establishments catering for this age-group the main emphasis is on the child's mental development, although until now there have been no general programmes and/or programme frameworks at either national or local level.

In the Scandinavian countries, there is a high percentage of women in the working population. Both the shortage of labour and the powerful trend towards equality of women and men in the labour market have contributed to this situation. Therefore, the need for early education is considerable, although by international standards the birth-rate in the Scandinavian countries is very low (14-16^{o}/oo). The organizing of early education is closely connected with economic development. Early education is increasingly supported out of public funds (both national and local), and the returns from this investment, i.e. the

results of early education, have started to interest the decision-makers at national and local levels. In addition, analysis of the interaction between social policy and early education has shown the latter's importance for several aspects of social welfare policy. In particular, much attention has been paid to the cultural significance of early education, since it is hoped that early education of a high standard will further the child's development and so, at least in part, prevent or reduce later learning difficulties. Therefore, as regards the establishment of goals, the Scandinavian countries have started to examine pre-school and school education together. The social-political aspects of early education are connected first and foremost with facilitating the utilization of the pool of female labour and with alleviating the cost of children to the family, in that early education is financed out of public funds for the most part. Although the organizing of early education is still being publicly debated in the Scandinavian countries, in some countries legislation is providing the possibility for all those parents who so desire to entrust their children to early education services for as long as the needs of the children may require.

CURRENT PROVISION

In all Scandinavian countries, both public and private early education is available; this may be divided into whole-time and part-time. The quantitative growth of early education has been, however, limited, in particular by scarcity of staff and facilities, because from the moment when the authorities decide to give considerable financial support to early education, a certain time must elapse before the personnel are trained and suitable resources provided.

The following tables present statistics for each Scandinavian country covering the numbers in different age-groups who receive day-care and details of the places provided. In general, the statistics are for 1973.

Denmark

Age	Number in age-group	Number of places	% of age-group	Number of places	
				Part-time	Full-time
0-2 years	214,000	21,400	10		
3-6 years	324,000	121,500	37		
Total	538,000	142,900	27	112,700	30,200

The aim of early education is to aid the healthy mental and physical development of the child and, in draft legislation that was being considered in the spring of 1974, local authorities are responsible for seeing to it that sufficient places are provided for all those who require day-care. At present, about 50% of five- and six-year-olds are attending pre-school. There are great differences between the number of places available in the towns and in the rural areas. In the capital, there are places for 13% of the 0-2 years age-group and for 41% of the 3-6 year-olds. In the rural areas, only about 2% of the 0-2 years age-group and 5%-20% of the 3-6 year-olds are attending pre-school. The goal is to provide by 1985 places for 30% of the 0-2 years age-group and for 72% of the 3-6 year-olds.

Finland

Age	Number in age-group	Number of places	% of age-group	Number of places	
				Part-time	Full-time
0-2 years	190,000	11,000	6		
3-6 years	212,500	34,500	16		
Total	402,500	45,500	11	23,500	22,000

Under a law which came into force in 1973, the aim of early education is to further the child's development and learning opportunities as well as to provide care for the child during that part of the day when he needs it. This means that provision of places must take account of parents who are shift- or night-workers. In Finland, too, the greatest number of places has been reserved for five- and six-year-olds; approximately half of the six-year-olds have been placed in pre-school. There are great differences between urban and rural areas: about 90% of all places are in the towns. The law stipulates that pre-school places are to be increased by about 13,000 per annum. A special feature of the Finnish pre-school legislation is that early education can also be arranged as family-care, officially supervised, for groups of a maximum of four children. Defined minimum requirements covering premises and care must be adhered to. This type of care is supported from public funds, and the cost to the parents is the same as for other forms of early education. Charges are graded according to the parents' income level, but even the highest charges cover only a part of the real costs.

Iceland

Legislation concerning pre-school education was revised in 1973. The aim of pre-school education is to provide for the child the conditions for him to develop in the care of staff who have received special pedagogical training, the staff's function being to create a school milieu which will support the child's development as an individual and as a member of society. Attention is paid to the special requirements of six-year-olds, with the result that all six-year-olds in the capital, and an increasing percentage of this age-group elsewhere in the country (altogether 90%) are in pre-school. In addition, an educational programme which is in force all over the country has been elaborated for six-year-olds. For the younger age-group few early education places are available.

Norway

Age	Number in age-group	Number of places	% of age-group	Number of places Part-time	Full-time
0-2 years	199,000	2,600	1		
3-6 years	260,000	16,300	6		
Total	459,000	18,900	4	8,700	10,200

Norway is at present (spring 1974) preparing new legislation concerning early education; the aim is to increase the number of places, thus enabling both parents to work. In the same proposals, the importance of the high quality of early education is emphasized. In Norway the difference in the number of pre-school places available in urban and in rural areas is great. In the Oslo region, 35% of the 3-6 year-olds are in pre-school, but the corresponding figure for the country districts is at the most 2%. Approximately 12% of six-year-olds are in pre-school. The aim is to increase the number of places to 100,000 by 1981.

Sweden

Age	Number in age-group	Number of places	% of age-group	Number of places Part-time	Full-time
0-2 years	227,000	7,800	4		
3-6 years	581,000	137,200	24		
Total	808,000	145,000	18	95,000	50,000

A law passed in 1973 governs early education and its functioning as well as the development of the system. The aim is to further, in close collaboration with the home, the overall development of the child's personality, physical health, and social behaviour. In the legislation, six-year-olds

have a special place, because the local authorities are obliged to ensure that all six-year-olds have the opportunity of attending pre-school; attendance is not, however, compulsory. A national teaching programme has been prepared for six-year-olds, and an attempt has been made, already at the planning stage, to find out through research some of its effects. The difference between urban and rural areas as regards the number of pre-school places available is of the same order as in the other Scandinanvian countries.

In comparison with many central European countries, the Scandinavian countries offer pre-school places to only a small percentage of children under school age. The main emphasis has been on reserving places for five- and six-year-olds and on preparing them for school. This generalization is not true as regards Norway, and in Finland, too, the trend is towards providing more places for the younger age-groups. Places have been made available for younger children only when this has proved to be absolutely necessary, a situation which has become more general with the increase in the number of families where both parents go to work and of single-parent families. Awareness of the general significance of early education has led to changes in legislation in every Scandinavian country in the 1970s with the result that the special position as regards the five- and six-year-olds is at present being abandoned, or that the education of six-year-olds is being integrated with the school system, although the compulsory school-age is not being lowered. This is the situation in Sweden, and also the Finnish aim.

In every Scandinavian country the relatively thinly populated regions have been neglected as regards the provision of early education facilities, but nowadays this is contrary to public policy. Except in the case of Denmark, the aim is to see to it that the cost to parents of early education remains very low, parental contributions being however linked to income level.

AIMS AND OBJECTIVES OF PRE-SCHOOL EDUCATION

In all Scandinavian countries, members of teaching staffs have traditionally had very great freedom to determine their aims and to select the methods of attaining them. In practice, the determining of objectives has been strongly influenced by the training received by the staff, with its implicit unformulated aims unconfirmed by the public authorities. A discussion concerning aims in this field started, as far as the Scandinavian countries are concerned, with the Swedish conference of 1968 (1968 års Barnstugeutredning (1)) and with the Finnish committees of 1971 and 1974 (Vuoden 1971 koulutuskomitea (2) and Varhaiskasvatuksen henkilökunnan koulutuskomitea (1974) (3)). The latter was simply a direct result of the law governing children's day-care that was passed in 1973. On the other hand, detailed regulations concerning scope of activities, premises, size of staff, type and size of children's groups have been in force for a long time, and action has been taken to ensure that they are complied with.

In Sweden, the goals set for early education are as follows:

- In collaboration with the parents, early education should provide every child with the best possible circumstances for furthering his emotional and volitional development.
- Early education should, therefore, provide the basis for the child to develop into an open, considerate person, able to put himself in the position of other people and to co-operate, as well as being able to make independent decisions and solve problems.
- Early education should create in the child the desire to seek and use information for the improvement of his own and others' living conditions.

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(1) 1968 Review of Nursery Schools.

(2) 1971 Education Committee.

(3) 1974 Training of Pre-school Teachers Committee.

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It is considered that these general aims can be attained by means of activity which is in accord with both Erikson's and Piaget's conceptions of a child's development. Special attention has been paid to the child's ego-concept, communication skills, and ability to form concepts.

In Finland, the aim of day-care and pre-school is to aid the child's development and learning opportunities. The realization of this general aim has been guided by:

- the view as to what sort of individuals children should become as a result of their education and development;
- knowledge about children's development, the factors that influence it, and children's needs;
- the view as to what demands may be made of a child's favourable early environment.

The detailed aims are as follows:

- Pre-school education should safeguard the child's physical development, health, and the prerequisites for his physical safety, taking account of the fact that physical safety should not too much restrict the child's opportunities for carrying out activities.
- The environment in which the child is being cared for should be emotionally safe, warm, and human.
- Care should offer the children opportunities for activities which they experience as significant and which they enjoy. Therefore, it should:
  - offer opportunities for being active and for co-operating in the carrying out of tasks that are important from the point of view of everyday life;
  - offer opportunities for happy co-operative play and cultivate various forms of self-expression and creativity, make use of the opportunities offered by children's culture and develop it further and also make use of suitable elements of adult culture;
  - stimulate interest in nature and in people as well as in man-made surroundings and help the child to form for himself a clear overall picture of the world which surrounds him, so that he can relate to it his plans for action and his activities.

According to an enquiry (Mäkinen & Niiranen, 1974), staff members consider that for the 0-3 year-olds the most importance aspects of the programme are those that concern the children's physical development and their motor skills, the development of perceptual skills, language development, creative expression and creative activities, as well as, in the socio-emotional area, encouragement of the expression of positive feelings and a positive attitude towards nature, work, and a correct attitude towards various minorities and exceptions. In the 3-6 years age-group, in addition to physical and motor-skill development and the above-mentioned socio-emotional aims, the goals include giving practice in co-operation, a positive attitude towards foreign nations and cultures, the equality of men and women, as well as the strengthening of self-confidence and initiative. In the field of cognitive development, the emphasis is on the development of perception and linguistic expression as well as creativity, knowledge about natural phenomena and about the community.

In Finnish pre-schools, activities are teacher-centred, even if (especially in connection with training creative activities) the teacher's guidance has been reduced.

In Finland, the elaboration of future pre-school teaching plans has started on a national scale and some are already at the trial stage, but the plans are intended to form a framework only, which the teachers will complement according to local circumstances, while taking account of the aim of advancing the development of the children concerned.

As far as the other Scandinavian countries are concerned, the elaboration of aims has not been a public matter to such an extent as in Sweden and Finland, even if there is evidence of an approach being made along these lines.

In conclusion, one can say that Scandinanvian pre-schools have certain characteristic features in common, which are not to be found in other countries, problems being approached differently there. One feature is the trend towards forming heterogeneous age-groups, this being the accepted solution in Sweden and Finland, although in practice 0-1 and 1-2 year-olds or 0-2 year-olds form their own groups, at least for most of the time. In addition, apart from those children who are very severely handicapped or severely mentally subnormal, Scandinavian pre-schools try to integrate all children, and the size of the group is then varied according to how many children needing special care are included in the group. For these groups, attempt is made to get teachers who have had special training. A third common feature is the attempt gradually to offer pre-school services in the sparsely populated countryside. For this purpose, a number of experiments have been started in Norway, Sweden, and Finland. These rely partly on subsidies to parents, partly on the use of peripatetic teachers, and partly on camp-type summer schools. In several cases, the transporting of even a small number of children is such a great obstacle and so tiring for the children that daily journeys from home to a pre-school cannot be arranged.

In Scandinavia, the part played by parents has always been regarded as very important, the aim being to guarantee parents the right to decide about their children's education and to create continuity between the education given at home and that given at pre-school or school, and also to take into account gradually at the age of five or six those educational aims which society sets the school. The part played by the parents is referred to in the legislation of most Scandinavian countries. This co-operation between school and home is, however, not regarded as sufficiently well developed. Indeed, it is regarded as being in need of special re-planning, with the attendant experimental work and new arrangements.

Finally, it may be worth mentioning that early education in the Scandinavian countries is not considered as a preparation for school except as regards the furthering of the children's socio-emotional development; skills that are essential from the point of view of school, such as the basic skills for learning reading and writing or the formation of quantitative concepts have not received much attention. As the prevention of learning difficulties has become an important objective in our school-oriented society, this aspect is beginning to receive attention, but structured programmes are lacking in this field.

METHODS OF EVALUATION

Evaluation studies on pre-school education in the Scandinavian countries have principally relied on the conventional pre-test/post-test design, using experimental and control groups. Learning results have been measured with the aid of the few available standardized tests of developmental level that have been adapted for the different Scandinavian countries and tests that have been specifically designed for these countries. For measuring the influence of pre-school, observations collected by teachers have been used in addition to these tests, as well as material collected by researchers through interviews and observation.

Most studies endeavour to use extensive material, although the observations made refer to short periods of time. There is hardly any experimentally confirmed information on the long-term effects of various teaching programmes. Only studies conducted in the 1970s will be evaluated below, their results and methods of evaluation being briefly presented. Methods of evaluation will receive special mention, if they appear to contain useful ideas.

THE EFFECT OF EARLY EDUCATION

General Programmes: Short-term effects (up to one year after termination of the programme)

A. Stukåt and Sverud (1974) planned their experimental programme for six-year-old children to further the aims of the report by the Committee on Pre-school Education in Sweden. They included material that was intended to develop the children's social behaviour in the direction of the aims mentioned in the report (e.g. the training of communication skills and the development of the ability to form concepts). The research project comprised 24 pre-school groups (N=438 children) and 24 control groups (N=451) from a different locality. The duration of the programme was two terms.

Before the beginning of the experiment, information about the experimental and control groups was obtained as follows:

- Malmquist's school readiness test (analogies, similarities and differences, comparions of forms, criticism of absurdities, comprehension of speech, verbal and visual memory);
- Phonetic analysis;
- Vocabulary test;
- Classification (similar things);
- Quantitative concepts (seriation, quantitative comparisons, knowledge of the meaning of numbers from zero to ten);
- Social knowledge (general information);
- Attitudes of the pupils to pre-school and to starting school;
- Attitudes of the teachers to the programme and material; ratings of pupils' reactions to the programme and concept as regards the teacher's role;
- Observation of the children's social reactions (standardized play situations, co-operation, aggression, dominance, attention-seeking, helpfulness, independence);
- Observation of the interaction between teacher and pupils (Flanders scale).

The initial evaluation showed that the experimental group was weaker than the control group in the school readiness test and the vocabulary test, but that they did better in the test on quantitative concepts. This factor has been taken into account in the processing of results by using co-variance analysis. The results revealed that at the end of the teaching period, the experimental group was better than the control group as regards school readiness, vocabulary, quantitative concepts, and social knowledge tests. In the last two tests in particular, the difference was quite remarkable - so much so that the difference between the two groups could to a large extent be accounted for by the difference in the treatment. The study also analyzed how much those who, on the basis of the initial test, were the best and the weakest had benefited from the teaching programme. The results showed that the best had acquired more quantitative concepts than those who received low scores in the pre-test. The social knowledge test revealed the opposite result: those initially weak had benefited the most.

The following trends in social behaviour changes were observed. In the experimental group an increase in physical contact, co-operation, mutual helpfulness, social adaptation, aggression, dominance, responsibility, consideration was observed. In the experimental group there was also a decrease in help-seeking, attention-seeking, desire for approbation, and independence.

One year after the termination of the programme, and when the children had completed one year in primary school, the groups were compared with the aid of the following:

- Egidius test battery (vocabulary, arithmetic, reading, writing, concept formation and copying (writing));
- Concept formation (conservation and seriation tests);
- Teacher ratings (emotional stability, social adaptation, intellectual readiness).

The results showed that the differences between the groups had disappeared. The control group had developed faster than the experimental group, at least in the variables measured. From teacher reports it could be inferred that the experimental group of children were socially less adaptable than the control group children. (The experimental group children perhaps showed greater initiative.)

B. Ruoppila and Korkiakangas (1973, 1974) have studied the effects of the new pre-school programme and compared it to the effects of the traditional kindergarten programme and to the development of children brought up entirely at home. The experimental group consisted of the children from the

experimental pre-schools of seven localities (urban and rural areas), the kindergartens of two localities, and children brought up at home from three localities. In general, the children stayed at pre-school or kindergarten for an average of 20 hours per week, although in one locality the school functioned experimentally for a smaller number of hours per week.

As the aims of the experimental teaching programme as well as those of the traditional kindergarten are to improve the child's physical fitness, and further his motor, cognitive, and socio-emotional development, the study endeavoured to cover the attainment in all these areas. For this purpose, a considerable number of new evaluation methods were developed specially for this study and were used in addition to tests standardized to meet Finnish conditions.

The test of motor development contained tasks covering gross- and fine motor activity, motor co-ordination, visual-motor co-ordination, and physical fitness. The tests were based on Oseretzky's (1955) and Pitkänen's (1964) research results, and they were selected on the basis of the aims presented in the programme plan.

Cognitive development was measured using the following methods:

- General intelligence (KTK performance test, Elonen et al., 1963);
- Picture vocabulary test (Ruoppila, 1971);
- Production of grammatical rules (Ruoppila, 1972);
- Concept formation: discrimination, seriation, quantitative concepts, classification (Elkind, 1964; Kofsky, 1966);
- Creativity: verbal, visual, and motor (Guilford, 1964; Torrance, 1962);
- Critical thinking: inquisitiveness, evaluation, explanation of reasons: some of the ideas are based on Guilford's (1967) tests of convergent-production and evaluative abilities;
- Basic readiness for reading, writing and arithmetic.

Socio-emotional development was measured in the following ways:

- Self concept: mood, learning ability, social relations, self-control, independence in play and game situations, critical attitude towards authorities (Engel & Raine, 1963);
- Observation in standardized play situations (co-operation, verbal and motor activity, dependence vs. independence); rating of personality traits (activity and alertness, responsibility, self-confidence, ability to take initiative, co-operation);
- Sociometric ratings (aggressiveness: direct vs. indirect, verbal, physical, mimical, and intensity of aggression);
- Ratings made by teachers (aggressiveness, dependence, critical attitude, attention-seeking, curiosity);
- Observation of the teaching in pre-school and kindergarten groups (modification of Flanders scale).

A comparison of pre-school children and children staying at home reveals that the pre-school programme developed in particular the child's mastery of grammar and vocabulary, his creative thinking and the basic prerequisites for reading, writing and arithmetic; other motor and cognitive development measures while not showing significant differences lend support to the pre-school.

The differences between pre-school and kindergarten children as regards motor and cognitive skills are limited to creativity and the basic prerequisites for reading and writing. The differences are in favour of the pre-school, apart from creativity, where kindergarten children produced a greater number of different responses in tests (fluency). In the area of socio-emotional skills, pre-school children, compared to kindergarten children, show more initiative, are more co-operative and less aggressive. Furthermore, pre-school children are rated as more curious and more critically minded than the kindergarten children.

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In comparing the results of teaching programmes as regards children who differ intellectually, it can be observed that the differences between extreme groups have diminished as regards motor development and linguistic development and also, to a certain extent, concept formation. The difference between extreme groups has not increased as regards any variable. On the other hand, the differences between extreme groups of children not attending school remained the same throughout the study.

No information is available on the long-term effects of the teaching programmes.

THE EFFECT OF SPECIAL PROGRAMMES

Motor development and physical fitness

In the Scandinavian countries Holle (1972) in Denmark and Penttinen (1974) and Siren (1973) in Finland have planned a programme of activities intended to further children's motor development and physical fitness. Penttinen and Siren have started experimental research regarding the effect of the programme. As the results are still being analyzed, it is only possible to describe the evaluation methods used to measure the motor development and physical fitness. Six-year-olds formed the experimental group. There was also a control group.

An attempt is made to measure:

- the quantitative and qualitative development of basic prerequisites for physical fitness;
- the development of the co-ordination of these basic skills;
- the ability to use the basic skills in different situations;
- physical fitness skills.

This area is important because basic information about motor development, especially among 2-7 year-olds is scarce and because urbanization has limited children's opportunities to develop physical fitness skills.

	Test	Basic ability	Factor	Source
1.	Abdominal muscle test		Dynamic strength of trunk	Clarke, 1959
2.	Dorsal muscle test			
3.	Arm stretching	Push: regular	Dynamic strength	
4.	Arm bending	Pull: regular	Dynamic strength	
5.	Bending forwards		Flexibility	
6.	Bending backwards		Flexibility	Pietilainen, 1974
7.	Knee bends		Flexibility	
8.	Pushing shoulders backwards		Joint flexibility	
	40 metres race	Running:	Dynamic strength	
9.	Time	length		Popov, 1971
10.	Position of head and upper part of body	quality		
11.	Position of hands	quality		
12.	Rhythm	quality		

Test	Basic ability	Factor	Source
Running (e.g. along a set path)	Running:		
13. Time	length	Agility	Pitkänen, 1964
14. Rhythm	quality		
15. Angle of body	quality		
High jump (without run-up)	Jumping:		
16. Height (in cm.)	result	Explosive strength	Gniewkowska, 1971
Long jump (without run-up)	Jumping:		
17. Length (in cm.)	result	Explosive strength	Popov, 1971
18. Take-off style	quality		
Long jump (with run-up)	Running + jumping:		
19. Length (in cm.)	result	Explosive strength and agility	Gniewkowska, 1971
20. Use of speed	quality		
21. Landing	quality		
Long throw	Throwing:		
22. Length (in m.)	result	Explosive strength	Popov, 1971
23. Use of hands: co-ordination	quality		
24. Use of body: co-ordination	quality		
Accurate throwing	Throwing:		
25. Large ball	result	Efficacity of movement strength and precision	Oseretzky, 1955
26. Small ball	result		
Throwing against a wall and catching	Combined throwing and catching		
27. Time for 10 throws	result	Agility	Lewin, 1971
28. Number of catches	result		
29. Style	quality		
30. Throwing and catching	throw-run-catch: number		
Functioning of the heart			
31. Pulse rate at the beginning and end of test			

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Language development

In Sweden, Leimar has investigated reading prerequisites, while in Finland Kuusinen, Ruoppila (1972), and Päivinen (1972) and in Denmark Vejleskov (1973) have investigated the significance of special training programmes on the child's ability to master the grammatical rules of his mother tongue. Of these investigations, those of Vejleskov and Kuusinen (the effect of training on different aspects of linguistic ability measured with the Illinois Test of Psycholinguistic Abilities) are in progress and only parts of them have been reported, giving, for example, detailed information on what evaluation methods have been used. Ruoppila has described the results of his own and Päivinen's studies in "Research into pre-school education: Jyväskylä symposium 1971," a Council of Europe publication. For each experiment a pre-test, post-test I and post-test II were constructed to measure the mastery of different morphological rules in the Finnish language. Either rare or artificial words were used and the meaning of these words was given by reference to picture cards. Both production and comprehension were measured. In all experiments the effect of the training programme was significant, and the differences between the experimental and control group lasted for at least half a year. Although opinions can differ as to what is really measured by these tests and how the effect of training is to be explained, it is known that the measure of mastery of the morphological rules correlates highly with the reading and writing results during the first three years in school, and it correlates with some, but not all, variables measuring cognitive development. Furthermore, it has been found that the effect of early education given in a foreign language at the age of five to six years can clearly be seen, especially in the variables measuring vocabulary and mastery of the morphological rules (Ruoppila, 1973). Children although having learned quite a lot of foreign words were handicapped in their mother tongue when compared to their peers in pre-school.

Leimar's research was of a preliminary nature. In the first instance a teaching method was developed the effects of which were only measured by how much the children's knowledge of letters increased during the training period.

Creativity

In Scandinavia, training programmes for pre-school children especially designed to increase creativity have been elaborated only by Liikanen (1975), who has also investigated their effect.

In her study, the purpose was to develop the six-year-old child's creative activity through play and art education. For this end, she prepared two perceptual-motor programmes and one motor programme.

Plan of the study:

Trained groups (length of programmes - six weeks)

- perceptual-motor programme;
- perceptual-motor programme;
- motor programme (Cherry, 1968).

Control groups (kindergarten and pre-school children)

Measured variables:

- intelligence;
- linguistic skill (vocabulary);
- school readiness;
- creativity;
- developmental level measured by free play (Liikanen, 1972).

The same concepts form the basic cognitive content and structure of the programmes. In the perceptual-motor programmes there are visual concepts or schemas (like FORM) and in the motor programme motor schemas. The basic concepts are repeated 30 times in each programme.

The two perceptual-motor programmes differ from each other in material (ready made for children vs. produced by children), but the content to be taught and the cognitive structure of the programmes are the same.

The children are taught certain basic visual concepts (vertical and horizontal lines, circle, cross, square, rectangle, diagonal lines, triangle and rhombus). Movement, outlining, copying, and repetition are used as methods of teaching, and concepts are varied with regard to size, shape (line, dotted line), direction and type of formation. It should be noted that in connection with these basic visual concepts children must also be taught the bases of classification (colour, shape, size, etc.), the concepts of similarity and dissimilarity, relational concepts (over - under, up - down, beside, between, in front of - behind, left - right), and concepts of comparison (bigger - smaller, the biggest - the smallest).

In the motor programme the basic element is a movement pattern (motor schema), and music is only supportive and stimulates the children to develop their movements in accordance with and by varying the schema. The shy children are encouraged to participate with the others, starting more slowly than the more agile children. The programme includes the following activities: crawling, creeping, walking and running, throwing and catching, balancing, jumping and leaping, games aimed at developing kinesthetic awareness, movements involving the whole body (bending, twisting, wiggling, shaking, swaying, rocking, stooping), finger and arm games, percussion, and drawing in which the child can portray music.

The dependent variable, creativity, is measured by tasks requiring divergent thinking, mainly through drawing and verbal tasks in which fluency, flexibility, and originality are rated and also combined into a sum variable.

The comparison between the experimental groups and the control groups after training indicated that there was a systematic difference in the creativity measures in favour of the experimental groups, although the significance of the differences of means was of the order of .05. When the experimental group was divided into two on the basis of the level of development measured by the child's free play, and the effects of training on these two groups were compared, it was noted that training had a greater effect at the lower developmental level than at the higher developmental level. Analyses showed that the differences between the groups decreased during the training. It should be stressed that the rating of creativity variables was carried out in such a way that the raters did not know from the papers whether the task to be rated belonged to the experimental or to the control group nor whether they were rating the initial or the final measurement. For this reason the result obtained cannot be ascribed to test technical factors. Since the programmes are holistic in nature and complex, it is difficult to say to what extent the increase in creativity is due to the various aspects of the programmes.

There were differences between the different training programmes as to how they promoted children's creativity. The most conducive in this respect proved to be the perceptual-motor programme in which children had some tasks to do on their own using only chalk, crayons, paint and modelling clay. The second best proved to be the other perceptual-motor programme in which children had a great number of different games to play. The motor programme also proved better than the ordinary kindergarten and pre-school programmes that served as control programmes, but the difference here was clearly smaller than in the case of perceptual-motor programmes. One possible explanation could be that this motor programme was new and more unfamiliar to teachers than the perceptual-motor programmes. The programme as such should not differ from the perceptual-motor programmes with regard to providing stimulus for creative behaviour.

It should be pointed out that the programmes had more influence on girls than on boys, which is probably due to the fact that the programmes were conducted by women, and creativity was also measured by women. It is likely that if there had also been male teachers at this age level the differential impact of the programmes on boys and girls would disappear.

It may also be emphasized that the results obtained apply to the programmes' effects on creative activity only, and within creativity only to divergent thinking. It would require a separate new analysis to explore their influence on evaluative, critical thinking (convergent thinking).

Traffic programmes

Both in Sweden (Sandels, 1969) and in Finland (Nummenmaa & Syvänen, 1970; Nummenmaa et al., 1972) structured traffic programmes for pre-school children have been planned with the aim of teaching them the essential rules for pedestrians (and cyclists) and how to apply these rules in traffic. In planning the teaching programmes, the methods used have been varied (series of slides, films, scale models, and teaching at a children's "traffic town"). The results of the teaching have been evaluated in various ways. Interviews have been used (oral descriptions of situations to which responses have to be provided; pictorial presentation of problem situations, to which responses have to be provided) and also observation of the children in genuine traffic situations (e.g. the journey from home to school). These studies have revealed that the children's knowledge and skills increased significantly compared with the control group, and that the most effective type of teaching is one where the child receives individual practice in a genuine traffic situation, for example combined with and following immediately the use of slides or film.

Programmes of this kind are already in use in Finland, as the number of children involved in traffic accidents in this country is high.

Television

There is a growing interest in Scandinavian countries in studying the possible use of television in early education. Research describing the effect of television in nursery education has only recently begun in Finland (Liikanen, 1974) and in Sweden.

Socio-emotional development

Especially in Sweden, experimental research has been conducted on the socio-emotional development of pre-school age children. In this research, both special training programmes and measures for discovering their effects have been developed.

The aims of programmes developing social skills and attitudes have been (Kärrby et al., 1972):

- to increase the child's cognitive self-control and self-knowledge, and to help him understand the motives, feelings, reactions, and behaviour of others;
- to create an attitude of acceptance of self and others, and to teach the child to respect the values of others;
- to teach the child to co-operate with others, and to solve social conflicts in a constructive way.

The intention is to attain these aims with the help of three different types of programme:

- Insight programme, where the main emphasis is on increasing the child's knowledge of social relations both affectively and cognitively with the aid of discussions and various activities;
- Co-operation programmes, in which the children are trained in co-operation in specifically planned group situations and group activities;
- Playing with dolls, intended to guide the child toward solving conflicts both at home and at school.

Both interviews and observation of playing with dolls have been used as evaluation methods. These methods have been developed from certain aspects of "Sesame Street" and of Brown's (1956) It-scale.

Jakubaur and Robinson (1972) have studied the effect of a specially developed programme purporting to reduce the aggressive behaviour of five to six year-old pre-school children. The programme was based on a modified Feshbach model, and it dealt with the handling of situations of cognitive aggression as well as with therapy methods. The programme lasted eight weeks and during each week the children took part in the programme for two days. Each time, two different frustration situations were dealt with. Aggression was measured as follows:

- Teacher rating of aggression: anxiety and insecurity;
- Observation of aggression: constructive behaviour;
- Picture frustration test (Rosenzweig);
- Observation of behaviour in a doll play situation.

The results showed that both in the teacher rating and in the doll play the aggressive reactions of the trained group significantly decreased, and that in the doll play constructive solution models appeared in their place.

Again, in Sweden, the effects of a special programme on the child's self-concept and on his knowledge about the family and other people have been observed (Gannerud-Menssen & Törner, 1973). Playing with dolls was used both in the programme and in the evaluation of its results. Interviews were also used. Because the experiment had no control group, it was only useful in providing ideas for evaluation methods and for developing teaching programmes.

An attempt has been made to measure the effects of the training programmes aimed at increasing children's co-operation with the help of the following structured games and situational activities (Ekholm, 1973):

- Construction game (building a zoo);
- Role-play (hospital);
- Free creative work.

In these situations, attention was paid to the following important features:

- Activities alone (verbal egocentrism, verbal behaviour towards adults, passivity, parallel play, aggression towards an object);
- Restraining behaviour (verbal aggression, verbal defence against contact-seeking, physical aggression, physical defence against contact-seeking);
- Active interaction (talking, dominance, physical interaction);
- Co-operation (asking about roles and work, answering questions on roles and work, giving help, receiving help, agreeing, playing roles, doing work).

DISCUSSION

In research on the effects of early education, the emphasis has been on the behaviour of the children, although this research is limited, in general, to a few variables which are taken to be of prime importance and about which information has, in Scandinavia, been collected over a short period only. It is, however, clear that an evaluation of the early education system that is limited to the behaviour of the children is inadequate, and that one should attempt to measure also the children's environment while they

are attending pre-school. The importance and necessity of measuring the environment in this way have been forcefully pointed out (e.g. Bloom, 1964), and the coupling of the measurements thus obtained together with the child's behavioural changes should form that wide referential framework in which the effects of early education are examined. This environment includes, in particular, the staff of the school. The teacher variable is not, in general, included in research which charts the effects of pre-school, although on the basis of existing knowledge this is an essential source of variance. Research carried out in Finland (Ruoppila & Korkiakangas, 1973) has revealed how noticeable were the differences in various groups of pupils between the autumn and the spring. These changes are connected with the teaching material and the teaching methods which were examined over a year-long period. One may ask how great the significance of the teacher variable is when compared with such commonly investigated variables of the children as social background, home environment, and so on. The importance of the significance of the teacher, especially in pre-school, is based on the fact that at a time when the child's development is particularly rapid, the significance of stimuli offered by the environment is at its greatest and also on the fact that for children of that age adults still have a vital position in the interaction between adult and child. The cumulative nature of the results of learning, at least as regards linguistic skills and their importance for acquiring the prerequisites for reading and writing, is a noteworthy factor.

In examining the effects of pre-school education, attention should also be paid to those large groups of children which, to my knowledge, have not been included in research. Thus, one ought, in particular, to evaluate the significance of early education for the children of parents who are shift- or night-workers. In these cases, the child's parents have very limited opportunities for intensive interaction with their children, due to the short periods of time when they are awake together.

Again, the significance of early education has, heretofore, been examined only in urban surroundings. Studies should be undertaken in rural areas too, and a solution of the criterion problem should also be considered from this point of view (Socialstyrelsen, 1973, 1974).

Furthermore, the problems of early education for handicapped children should be studied because especially in Scandinavian countries the policy has been to integrate handicapped children with "normal" children in pre-schools. Research concerning this topic has only recently begun (Berg, 1974; William-Olsson, 1974 a).

Although in Scandinavian countries the problems concerning the early education of migrant workers' children are quantitatively not so large as in many other European countries these children are in urgent need of specially planned pre-school programmes. Some research findings have already been published (Socialstyrelsen, 1974; Stockfelt-Hoatson, 1973) but further research is very much needed. Completed research shows how both the learning of the mother tongue and the learning of the host country language can be helped through planned interventional programmes.

Finally, better use should be made of experiences obtained in various countries, both of programmes and of evaluation methods, although they are, admittedly, tied to a certain linguistic and social context. In particular, one might consider commencing a comparative study which would follow the products of different solutions to the problem of early education. There should be good opportunities to do this, as school starts at the age of five in some countries, at six in others, and at seven in yet others. Such a comparative study could show the significance of services offered to a complete age group as opposed to a part of the age group, if the effects were measured in a sufficiently varied way.

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EVALUATION OF PRE-SCHOOL EDUCATION: RESEARCH IN SWITZERLAND

Heinrich Nufer

INTRODUCTION

Our inquiries all over Switzerland into scientific research in pre-school education, with special reference to the scientific evaluation of pre-school experiments and programmes, have yielded very little information. This primarily reflects not the importance attached to pre-school education, but rather the state of development of scientific concern for the problems of pre-school education in Switzerland. In Geneva, under Piaget, a long tradition of research into the psychology of development has been built up, whose findings have provided the foundations for a great many programmes and evaluation strategies all over the world. Piaget's work is extremely valuable as a theoretical basis. The scientific study of pre-school programmes and experiments, however, has barely begun and is still very rudimentary. The Pedagogical Institute of Zurich University is still virtually a pioneer among Swiss universities, at least where pedagogical investigation of the subject is concerned.

Possible reasons for this lack of university activity in the pre-school field by comparison with other European countries are as follows:

- The "pre-school" movement was almost two years late in reaching Switzerland. The decisive influence in German-speaking Switzerland came from publications in the Federal Republic of Germany

- The first major public discussions were almost solely about early reading. The Swiss "experts", especially professional teachers of young children, were quick to dissociate themselves in no uncertain terms from any early reading lobby. At the same time, the pre-school reform movement was equated with the rejected and misunderstood lobbying for early reading. This to some extent purely emotional controversy over the poorly understood pre-school education movement formed a further obstacle.

- Although the importance of pre-school institutions such as day nurseries (Kinderkrippen) and kindergartens (Kindergärten) is relatively uncontested in Switzerland, demands for more purposeful pre-school education were slow to gain a wide public hearing. Politicians showed little interest since there is not much political prestige to be gained from pre-school education.

- Pedagogical research is still in its infancy in Switzerland.

- There is very little money for educational research. Apart from the National Research Foundation (Schweizerischer Nationalfonds zur Förderung der wissenschaftlichen Forschung), which distributes federal funds, there are no major sources of finance for pre-school projects. There are also very few educational researchers with any interest in pre-school education.

- Politicians and teachers are very sceptical about research making any practical contribution to pre-school education. For them, "common sense" and intuition are more valuable criteria.

This is to be changed in future. The Swiss Science Council (Wissenschaftsrat) has produced a comprehensive report specifying a number of priority areas. The priorities it sets and the definitions it gives of subjects for future research are based on a large-scale survey of scientists and interested circles. Pre-school education is given priority within educational research as a whole. This means that, if additional state funds are made available for research, pre-school research will enjoy a certain preference. However, the way in which the priority area of pre-school education research is defined shows little sign of any general pedagogical strategy that includes evaluation. Sociological considerations seem to come foremost, and even they have been strung together rather arbitrarily. Suggestions for descriptive studies predominate, including:

- detailed descriptions of pre-school level education in different social environments and in different conditions;

- investigations of speech habits and styles of speech in the family, in children's homes and at kindergarten;

- influence of the media on pre-school children;

- the institutional framework for pre-school education;

- facilities for children from families lacking a father or a mother.

The priority given to pre-school education is undisputed, but it can only be hoped that the breakdown into areas for investigation will be reviewed from the pedagogical point of view before the report is used to help decide the allocation of research funds. It is possible that a survey of Swiss pre-school research may prove more informative in a few years' time.

SURVEY OF EXISTING PRE-SCHOOL FACILITIES

Pre-school education has a long tradition in Switzerland. The lasting influence of early developments, some of which reach back into the last century, bear witness to a certain stolidity and durability in some forms and institutions of pre-school education in Switzerland.

Many pre-school facilities are run on voluntary charitable lines. In many cases they are financed by foundations and firms and out of the proceeds of public collections. Another factor is the peculiar organization of government in Switzerland, where many decisions and activities are initiated at grass-roots level. This is particularly so in the case of pre-school education. Virtually all over the country, pre-school education is a matter for the local authorities and local charitable organizations. Very few cantons have so far taken over pre-school education and assumed financial responsibility for it. There is, however, a clear trend towards incorporating pre-school facilities of general public value (primarily kindergartens) in the education system. Responsibility for the schools, or rather for the whole of elementary education, lies with the cantons. In most cases, however, incorporation in the public school system is a very slow process taking many years, not only for financial reasons.

Day nurseries in Switzerland are still also run almost exclusively by private organizations and foundations. Development of this pre-school sector is still very slow and raises many pedagogical and conceptual problems. The original openness (of the 19th century founders) has given way to marked inflexibility and a certain slowness to accept new ideas. The facilities are often overcrowded. The staff have relatively little training, which makes for poor educational conditions. Over the last 20 years the Zurich Institute for Mental Health in Childhood (Institut für Psychohygiene im Kindesalter) has persistently tried to provide advice and inject fresh ideas. Smaller groups, more mixing of ages, more and better-trained staff - all these are crucial requirements, but are often not put into effect because of their financial implications. This is all the more regrettable because the crèches or day nurseries can be an important educational influence, especially for children from underprivileged backgrounds and for migrant workers' children. The Swiss Crèches Association (Schweizerischer Krippenverein), for example, recommends in its guidelines that a group of 50 children should be looked after by three trained staff and three auxiliaries. Modern thinking advocates four times the number of trained staff to look after only 40 children. The crèches are particularly unsatisfactory in the industrial development areas. There is no state control of crèches. The alternative of family day-care (Tagesmutter) has only just reached the experimental stage in a few places. From the initial findings, it seems that only some of the problems can be solved in this way. More difficult cases are still left for the crèches and children's homes.

Children's homes are regarded as a last resort and are generally run satisfactorily from the pedagogical viewpoint. Even in modern homes, it is difficult to achieve continuity. Staff turnover is too high. The cost is in some cases enormous. There is not as yet any special training for the education of very young children. Children's homes are mostly run by voluntary organizations, but their running costs are often subsidized by the local authority or canton.

Kindergartens take most of all children of pre-school age. They are run mainly by local authorities and to some extent by voluntary organizations. A Swiss kindergarten teacher looks after 27 children on average. According to the 1970 census there were some 5,000 women employed as kindergarten teachers in Switzerland for some 135,000 children comprising:

7-10% of all 4-year-olds

30-40% of all 5-year-olds

70-80% of all 6-year-olds

5-7% of all 7-year olds.

School starts at age 7. The 5-7% of children in this age-group still going to kindergarten are children whose school entry has been deferred for one year on grounds of lack of maturity. In urban areas virtually all children have the opportunity to attend kindergarten for one year before starting school. In rural areas, especially in the mountains, there are still few or no kindergartens to this day. There are now demands in Switzerland for two years' kindergarten, but this has only been achieved by local authorities whose budget is not too tight.

From the age breakdown of kindergarten pupils, it may be seen that school starts late in Switzerland, and that not all children go to kindergarten. If kindergarten pupils were shown on a map, it would be seen that disadvantaged regions also have scant pre-school education facilities. The lack of early educational opportunity and an often meagre school system are bound to affect the prospects of children from these regions.

For working mothers the kindergartens are not much help. They are open for only two hours in the morning and two hours in the afternoon, with a two to three hour lunch break for the children

Experimental kindergartens and play groups are still rare in Switzerland. They are usually started by middle-class parents, on whom they make great demands in terms of both money and participation. The training of the staff varies - there is a higher proportion of lay helpers than in public kindergartens. Parent participation and parent education often form part of the experimental programme.

The whole pre-school age range of 0-6 years comprises 700,000 children. Of these, 170,000 are foreign, 70%-80% of them growing up in a region where their mother tongue is not spoken.

If public funds for this age-range are compared with other age-groups, it is clear that pre-school children do not get their fair share in Switzerland. Preventive and compensatory educational measures are virtually non-existent.

General objectives of pre-school education

In their report on pre-school education and pre-school policy (Vorschulbildung - Vorschulpolitik, 1972), Lüscher, Gross and Ritter show that child-care in Switzerland places fairly strong emphasis on medical care aspects. The mothers' advisory service, which is widely used, concentrates almost exclusively on physical development. Doctors often also provide the first educational advice, although they have no training in educational psychology. In a few large towns, parents are regularly sent free leaflets on their children's development processes. Intended to advise parents and make them aware of pedagogical problems, this provides something of a pedagogical counterbalance to the predominance of the medical approach. Another point made in the same report is that the Swiss place too much emphasis on the idea that "the mother's place is with her child". This provokes feelings of guilt in those mothers who are not able to comply with the norm. On the other hand, despite this convention there is no readiness to reduce the workload of working mothers. Unmarried mothers are particularly badly off in this respect.

The crucial problem in the transition from home to kindergarten is the child's "separation" from its mother, yet kindergarten teachers look upon themselves as mothers to their charges. An inquiry conducted by the Pedagogical Institute of Zurich University on kindergarten teachers' attitudes to their profession showed a clear overemphasis of the teacher-child relationship. To help the child establish a relationship with a wider environment is not regarded as a central part of the job. The findings showed the following order of priorities for kindergarten teaching (Nufer, 1974):

- to protect the individual child and foster his development;
- to help parents with their children's upbringing;

- to break down the child's infantile attachment to his mother and to advise parents on educational matters;
- to prepare the child for school.

Very little value is attached to social aspects of education, such as preparation for life in modern society (community life, technology, etc.). The kindergarten teacher is concerned first with the child as an individual, then with helping the parents, then with later school and only fourth with social considerations. Neither mothers nor kindergarten teachers are asked to undertake pure child-minding functions, yet most kindergarten teachers feel that parents regard them as child-minders.

The Swiss kindergarten movement was caught up some years ago in the pre-school education controversy, but it managed to forestall public demands for reform by devising a so-called Outline Plan. This plan is basically nothing more than a manifesto which attempts to defend the traditional kindergarten. The outline was spread so wide as to leave room for practically everything. On close analysis, Froebelian play is central to the approach. Purposeful, planned step-by-step learning is rejected in favour of intuitive selective learning. Watching kindergarten teachers with pre-school children, one is constantly surprised by the worthwhile work they do and the genuine ability they display. They are often clumsy in putting what they are doing into words, but they do their jobs with what is often remarkable skill. The work of many kindergarten teachers is better suited to the children than that of many primary school teachers. The kindergartens' tendency to react to open criticism by becoming more school-like is in many respects a loss to education.

EVALUATION OF GENERAL PRE-SCHOOL PROJECTS

1 Influence of the kindergarten

Since 1973, L. Schuh-Gademann has been carrying out research, sponsored by the Pedagogical Institute of Zurich University, into the influence of kindergarten attendance on cognitive development. The project is financed by the Swiss National Foundation (state research foundation). The research covers primarily those cognitive factors which appear in the most commonly used sets of school maturity criteria, e.g.:

- shape recognition and reproduction,
- arithmetic and linguistic memory,
- vocabulary,
- understanding of concepts and symbols,
- thinking in various subject areas,
- ability to concentrate,
- grasp of numbers and quantities,
- creativity.

For measuring purposes, the Stanford-Binet Test was chosen. A supplementary test was compiled from various school readiness tests, for factors not covered or not adequately covered by Stanford-Binet (e.g. understanding of symbols, reproduction of shapes, creativity).

The test group is made up of Zurich children entering kindergarten in Spring 1973, i.e. 4-5 years old when the research was started.

The control group is composed of a similar number of children from comparable backgrounds but not attending kindergarten.

For the purpose of establishing the initial situation, all the children were tested in Spring 1973. The research group numbered 202 children (99 girls, 103 boys), the control group 193 (96 girls, 97 boys). The children were tested again in Spring 1974. A questionnaire was used at the same time to establish the social status and attitude to education of the children's parents. A second questionnaire was used to ascertain how far the kindergarten teachers included cognitive development in their teaching. Comparison of results is intended to show:

- whether the results of the kindergarten attenders are significantly better than those of the other children;
- whether the results are significantly better after one year than on entry to kindergarten;
- whether any improvement in performance depends on social background, sex and IQ.

Analysis of the results has not yet been completed. Detailed information may be obtained from the project leader:

Frau Dr. L. Schuh-Gademann
Pädagogisches Institut der
Universität Zürich
Rämistrasse 74
CH - 8001 Zürich.

2. Influence of teaching in children's homes (Säuglings- und Kleinkinderheimen)

From 1958 to 1961 the Zurich Institute for Mental Health in Childhood carried out research in children's home of the canton of Zurich, which threw light on development influences in such homes. The findings attracted considerable attention and were published in 1966 (Meierhof & Keller, Frustration im frühen Kindesalter). The research covered 326 children. In 1971-74 Meierhofer carried out a follow-up study. Of the original 326 children, 143 were contacted, now aged 15. Sixteen more had already been examined two years before. The remaining children could not be included because of:

- unknown address,
- refusal of permission by guardians,
- no response to inquiries.

Questionnaires were sent to teachers and the young people themselves to obtain a general picture of each child's general situation at the time, its behaviour and case history. Each of the children was examined mentally and physically, using the following tests:

- Rorschach (Bohm, 1965),
- Ungricht Essay (graphological analysis, analysis of content and style),
- Tree Drawing (Koch, 1957),
- WIP (shortened HAWIE) (Dahl, 1968, Thomas-Dahl, 1969),
- KAT Children's Anxiety (Thurner, 1969),
- FHT Photo Hand (Belscher-Lischke-Selo, 1971),
- Sociogram in school (Bastin, 1967).

The investigation phase has now been completed. No findings are available, as the data had not yet been analysed by the end of 1974. The following questions will be paid special attention in analysing the results:

- Is the group of children who suffered early deprivation now healthy or not?
- Which factors contributed to eliminating deprivation damage or to maintaining the child's health? (Analysis according to several criteria, e.g. type, intensity, duration, time of pedagogical influences, etc.).
- Are there any typical symptoms and syndromes that can be recognized as delayed after-effects of early damage?
- What do "typical" courses of development look like? How are they to be interpreted?
- Do particular syndromes have other causes?
- What inter-relationship is there between theoretical deprivation factors in early childhood and other factors?

- What practical suggestions for the treatment of these children may be put forward on the basis of the research findings?

The control group is made up of children whose development has been tested by the Internationales Wachstumszentrum (International Growth Centre in Zurich. A group was chosen to correspond socio-economically as closely as possible to the test group. The control group data are unfortunately not as comprehensive, so that only given individual factors can be compared (physical particulars, school achievement, family background).

Further information and material may be obtained from:

Frau Dr. Marie Meierhofer
Institut für Psychohygiene im Kindesalter
Albisstrasse 117
CH - 8038 Zürich.

3. Influence of family environment

In connection with preparations for the establishment of a post-secondary institution specializing in education (Aarau), two research projects were drawn up by Ries and Niederberger. They are preliminary studies for a comprehensive project on the influence of the family environment on the development of the pre-school child. Neither project is yet under way.

3.1 Statistical survey on deferred school entry, early school entry and repetition of the first school year

The survey is to cover all children in Canton Aargau whose school entry was deferred in Spring 1974. Some 1,600 children (about 15% of the age-group) are concerned. Questionnaires will be used to compile data on each child, its family, where they live, reasons for deferment and the inquiries made prior to deferment. The sample will be compared with:

- a sample of 400 of the normal school intake,
- all children entering school early (complete survey as for deferred children),
- all those repeating the first year (full survey, approximately 300 children).

The results will be analysed by reference to the following questions:

- How homogeneous or heterogeneous are the various groups? The question of homogeneity is important for any compensatory education and for school entry arrangements.
- Are there any variations in the socialization or social background of the individual groups?
- Had the children entering school early been specially stimulated intellectually by purposeful pre-school education and do the deferred children show educational deficits from early childhood?
- What is the cost of deferment to the state, and what would appropriate compensatory measures cost?

3.2 The availability of playthings and other articles considered of value in the development of 3-5 year-old children in various sections of the population

This second project of the Aargau post-secondary institution starts from the assumption that family status (income, education, background) determines the child's access to objects which stimulate play and learning activity. These objects form an important source of stimulus in the home and are important for later success at school.

The project will include cataloguing 3-5 year-old children's playthings and other stimulating objects. The children's participation in organized groups intended to foster development will also be recorded. Further data will be collected on:

- parental know. edge and information about toys, learning material and organizational aids to education;
- family decision-making in selecting and purchasing toys (e.g. assessment of toys);
- socio-structural features influencing the stimulating value of toys (e.g. material status, educational and occupational status, influence of roles, influence of residential area - town/country).

The population to be studied comprises the elder children in all Swiss families with two children aged between three and five.

Four samples of 100 families each will be taken from various areas, viz:

- a rural area;
- a major urban centre;
- a regional urban centre;
- an urban district of a large city.

Information and detailed documentation on the projects, parts of which were started in 1974, may be obtained from:

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EVALUATION OF SPECIFIC PRE-SCHOOL PROGRAMMES

Inquiries to various Swiss university institutes yielded no information about any scientific evaluation of pre-school programmes. As far as I know, there are no comprehensive curriculum experiments being carried out in public kindergartens that could be evaluated. There are some private experimental kindergartens, where experience is being accumulated and reviewed rather more systematically, but they are not being scientifically evaluated. It is possible that some experiments may produce fuller findings in time.

In Canton Zurich, efforts are currently being made to set a small research team to work on the further development of public kindergartens. The first stage would be to develop a research strategy, by reference to which to assess what happens in the actual observation kindergartens. This preliminary work is due to start in 1975 (Heyer 1974).

Of particular urgency at the present time is scientific evaluation of language experiments for foreign-language children in Swiss kindergartens. A number of experiments are in progress at the moment, mainly dialect courses, which are neither clear nor capable of evaluation with regard to either their basic approach or their effects. The large number of foreign-language children who have this language problem justifies differentiated scientific evaluation. The basis on which decisions are reached should include the most objective possible data, which only scientific evaluation can provide.

PROBLEMS OF SWISS EVALUATION STUDIES

It is clear from this report that evaluation studies in the pre-school field are neither widespread nor well developed. Even if more funds were made available, there would still be a considerable shortage of researchers with any real links with pre-school education. When research is started in any field, it is important to have practically-minded researchers who can win the practitioners' co-operation. Swiss training for pre-school teachers is not very science-orientated. There are major problems of comprehension between researchers and practitioners in the definition of terms alone. The widespread criticism of pre-school practice, which did little to foster its positive side, aroused apprehension and distrust.

Consequently, particular care needs to be taken in preparing researchers for research into pre-school education.

A striking feature of all the evaluation projects described is the difficulty in forming a truly appropriate control group. Yet valid findings require great care in constructing control groups. Perhaps too little attention has been paid to this aspect in most projects.

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EVALUATION OF PRE-SCHOOL EDUCATION: RESEARCH IN THE UNITED KINGDOM

Maurice Chazan

INTRODUCTION

In spite of the great interest in pre-school education in the United Kingdom, very little systematic research has been carried out here on the effects of nursery education. Further, although a considerable amount of fundamental work has been done relating to the early development of children, in contrast to the situation in the USA few monitored experimental programmes have been launched here for children considered "at risk" of educational failure because of social disadvantage or for other reasons. After a brief discussion of the main factors affecting the development of pre-school education in the United Kingdom, and an outline of its pattern, extent and aims, this paper, which does not attempt to make a comprehensive review of all research studies concerned with the evaluation of pre-school education in this country, illustrates the approaches and techniques used in such studies. The emphasis is put on recent and on-going evaluation studies (for a comprehensive review of current research into pre-school education in Great Britain, see Tizard, 1974).

BACKGROUND

Factors affecting pre-school educational provision in the United Kingdom

In the past, the development of nursery education in the United Kingdom has been slow, to some extent because priority in the allocation of limited financial resources has been given to the compulsory sector, but also because many mothers have been anxious not to give up full responsibility for the care of their children before entry to compulsory schooling, and so have resisted the idea of pre-school education, seeing this as a potential threat to the family (Blackstone, 1971). However, few parents now feel able to provide the best educational environment for their young children even in good home conditions, and a high proportion of mothers would like their children to start school at an earlier age than they actually do (Gavron, 1966). The reasons for the contemporary demand for more nursery education are complex. Because of internal financial pressures and the need for more labour in certain areas, as well as the changing attitudes of women to their own role in society, a growing number of married women are engaging in professional and industrial activities outside the home (Morrish, 1972), but their motivation for wanting to avail themselves of nursery education is often not so much to find a safe place to leave their children as to provide them with greater scope for play and companionship than they can get at home. Parents are being increasingly influenced by the new emphasis on the importance of stimulation in the early years and on the contribution which the nursery school can make to the development of the child.

There is, too, a tendency for families to be smaller, and this, combined with the increasing physical isolation of the nuclear family, particularly of young couples who live at some distance away from their own kin, may lead to an over-intense relationship between adults and children (Yudkin, 1967; Musgrave, 1972) which can be modified by nursery school attendance. Further, in the larger cities in particular, many families living in overcrowded homes, in high rise flats or in housing conditions unsatisfactory in other ways find it difficult to bring up children or even to cope with the problems they present. The social as well as the educational function of nursery education has been recognized for a considerable time, and indeed the child's enrolment in a nursery group of some kind may in some cases prevent a family breakdown, with the child having to be taken into the care of the local authority. Priority, therefore, has usually been given in local authority schools to young children who suffer some kind of social handicap, such as a lack of companionship at home, adverse housing conditions or a physical disability. In this category, too, are the children of mothers bringing up families single-handed or otherwise overburdened, children in immigrant groups, and those who are culturally rather than materially deprived and need help with their linguistic and general cognitive development.

In recent years, the problems of socially disadvantaged children have aroused much interest, and, under an Urban Aid programme inaugurated in 1968, extra resources have been allocated to local authorities in areas of high social need to enable them to provide more nursery places. Consequently, it is not surprising to find that children from the poorer homes tend to have greater opportunities for pre-school education than children from relatively advantaged

working-class homes (Plowden Report, Vol. II, Central Advisory Council for Education (England), 1968; Chazan et al., in press), even though not all mothers in deprived areas take advantage of the opportunities available to them (Chazan et al., 1971). It is still the case, however, that a higher proportion of "middle-class" boys and girls enjoy organized pre-school educational experience than "working-class" children, since the independent schools and voluntary playgroups cater largely for the former children. A government White Paper (Department of Education and Science, 1972), publishing national plans for educational expansion, while emphasizing that priority would be given in the early stages of the extension of nursery school education to areas of disadvantage, recognized the general value of pre-school education, and announced that it was the aim to make nursery education available to all children aged three and four whose parents wished them to have it. The current social imbalance in relation to opportunities for pre-school education is, therefore, likely to be corrected, at least to some extent, in the next decade.

Current provision

The continued limitation in the amount of money available for nursery education in the United Kingdom has resulted not only in a considerable variation in the pre-school facilities available in different local authorities (which have a large measure of independence from central government in decisions concerning the care and education of pre-school children), but in growing provision, particularly of playgroups, being made by voluntary bodies. The wide range of pre-school provision and the different ages at which children begin to participate in organized educational activity make it difficult to ascertain precisely how many children are enrolled in some kind of nursery group at any one time. Furthermore, in spite of the slow progress, the pattern of provision is constantly changing, with the result that official statistics quickly become out of date. The figures quoted below, therefore, which relate mainly to England and Wales, must be regarded as giving only a general picture of the pattern and extent of pre-school education.

As Halsey (1972) points out, pre-school provision in the United Kingdom includes local education authority nursery schools and classes, independent nurseries, day nurseries provided by social services departments of local authorities, registered child minder groups, nurseries run by industry and a host of welfare organisations, as well as a vast number of playgroups. Local education authorities provide education in nursery schools (separate establishments) or in nursery classes, which are an integral part of an infant, or infant and junior, school. In January 1974 there were 523 nursery schools maintained by local education authorities in England and a further 1,997 nursery classes providing a total of 80,370 full-time equivalent nursery places. The average for all local authorities in England was 8.6% of children of nursery school age receiving either full- or part-time education specifically meant for this age-group (in Wales the average was 19.6%), with a further 18.1% of children below compulsory school age attending ordinary infant school classes (28.8% in Wales). This represented, in England and Wales, a 12% increase in nursery places over the number in January 1973, though the rural counties of England still tended to be the worst served (Source: Hansard, vol. 885, no 63, relating to parliamentary questions on 7 February 1975; see also Bob Doe, Where the under-fives go, The Times Educational Supplement, 14 February 1975). In addition to the children in local education authority schools, just over 1% of 2- to 4-year olds receive education in independent or direct grant schools (Department of Education and Science, 1973).

Apart from the school provision discussed above, a number of young children, mostly under two (22,226 at the end of 1970 in England and Wales) attend day nurseries provided by, or registered with, the social services departments of local authorities (Department of Health and Social Security, 1973). Additionally, at the end of 1970, 248,883 children attended "nurseries", a term covering a variety of facilities for pre-school children (mainly 3- and 4-year-olds) which do not come under the aegis of the education authorities. Most of the children in this group go part-time to playgroups organized by voluntary bodies such as the Save the Children Fund and the Pre-school Playgroups Association (PPA) and registered with social services departments. The number of children attending these playgroups has continued to grow, and in July 1973, nearly a quarter of a million children attended groups organized by the PPA alone (Pre-school Playgroups Association, 1974).

Although it is not possible to discover from the official reports of governmental departments how many children in the United Kingdom will have had any experience of pre-school education by the time they enter infant school, it is clear that the proportion is small, and, even if the earlier start to compulsory education is taken into account, compares unfavourably with that reported by most other European countries. Blackstone (1971), on the basis of 1965 statistics, estimated that approximately 10% of 3- and 4-year-olds in England and Wales were involved at any one time in organized educational activity. The 1964 National Survey among Parents of Primary School Children, reported in Volume II of the Plowden Report on Primary Education (1968), found in interviewing a random sample

of over 3,000 parents in England that 16% of their primary school children had attended a nursery school or nursery class. Davie et al. (1972), in the National Child Development Study of some 16,000 children born in Britain in one week of March 1958, report a similar finding. In a study by Newson and Newson (1968) of 700 4-year-old children in Nottingham, it emerged that only 11% had attended any sort of nursery group. A rather higher figure is reported by Chazan et al. (in press), who found that about 33% of a sample of 670 children entering infant school in September 1968 living in varied social conditions in three cities, including deprived areas, had previously attended nursery school, but discrepancies of this kind serve only to highlight the differences between areas in the extent of their pre-school provision.

As previously indicated, the opportunities for pre-school educational experience in this country are currently increasing. The number of playgroups being established by voluntary organizations is growing rapidly and in addition to the increase in local authority provision facilitated by the Urban Aid programme, the 1972 White Paper has provided a new impetus for expansion, though this has been in terms of part-time rather than full-time attendance.

Aims and objectives of pre-school education

The freedom of nursery schools and classes in the United Kingdom to work out their own aims and objectives means that there is no uniform pattern of nursery education in this country. Nevertheless, it may be said that pre-school education here is characterized by its informality. As Blyth (1967) states, apart from constraints imposed by buildings and general physical conditions, there is little formal organization either of the children or of time, except for an occasional period set aside for corporate activities such as story-telling or music and movement. Emphasis is on education through free play and activity, and on the development of the child's self-reliance, independence and co-operation with others (Blackstone, 1971). The Nursery Schools Association stresses that important aims in pre-school education are, in addition to promoting physical welfare, to provide enriched opportunities for play, the companionship of other children, and contact with understanding adults.

In an enquiry into the aims and objectives of nursery education as perceived by a sample of 578 nursery school teachers, Taylor et al. (1972) found that the child's psychological awareness of himself and others was the area of objectives most likely to be emphasized. Next came the areas concerned with school expectations, physical development and general social awareness, with creative, aesthetic objectives only a little way behind. Finally came intellectual or cognitive objectives - this relatively low rating tending to underline the nursery teachers' concern to avoid involving the child in too much formal education. However, the same teachers on the whole expressed a preference for a role where the teacher rather than the child was the agent of educational action, and where the teacher played a clearly defined part.

Kent and Kent (1970) see the purpose of teaching at nursery school level as "to create a framework of controlled and flexible free activity in which children are helped and extended by the teacher at each stage of their development". Van der Eyken (1969) considers that pre-school education has two main objectives, one being personal enrichment for all children, the other being to help disadvantaged children to begin their primary education on an equal footing with their contemporaries.

In the wake of the massive pre-school experiments for deprived children in the USA, there has been a growing emphasis on the latter objective in recent years. The traditional informal approach of the British nursery school, where instruction is incidental rather than direct, has been thought by some to be inadequate to meet the needs of disadvantaged children, who are seen as likely to benefit from a more structured programme, where activities are sequenced in a logical and relevant way, with an emphasis on general cognitive development and extending the child's language (Williams, 1973). Controversy has been aroused over the desirability of a "structured" versus a "child-centred" approach, although these are not incompatible (Laing, 1973); it is indeed possible to put some stress on the development of intellectual skills while giving the child ample scope for free play (see Pary & Archer, 1974, for a survey of current practices in nursery schools, classes and other forms of pre-school education in the United Kingdom).

The importance of parental involvement in pre-school education has been underlined in recent years (Department of Education and Science, 1972), and many nursery schools are developing closer links with parents. Furthermore, as stated above, a number of parents are taking an active part in the organization of pre-school provision for their children. The Pre-school Playgroups Association, for example, in addition to supporting the formation of local playgroups

between the ages of two and a half and five years, aims to encourage the study of the needs and problems of young children and to promote, by a variety of means, public interest in their education. With the expansion of nursery education by the State, the role of parents in the education of their pre-school children is likely to change in some ways.

METHODS OF EVALUATION

Evaluation studies in the area of pre-school education in the United Kingdom have, in the main, relied on the conventional pre-test/post-test design, with experimental and control groups, and on the assessment of gains by means of normative tests. Because of the dearth of structured instructional material for pre-school children in this country, several projects have been forced to have recourse to American instructional material. In particular, use has been made of the Peabody Language Development Kit, the Americanized content of which has been a major source of discontent to nursery school teachers involved (Quigley, 1971). It is still the case, too, that tests originating in the USA are used to a considerable extent in this country, and this is reflected in pre-school studies. However, in recent years an increasing number of British tests and schedules have become available (see Appendix), such as the Reynell Developmental Language Scales. Adaptations have been made, also, to some American tests, notably the Peabody Picture Vocabulary Test, to make them more appropriate for British children.

Although the emphasis has been put on summative evaluation by means of tests, some of the more recent studies have adopted a broader approach to evaluation introducing observational techniques and obtaining reactions from those involved in experimental projects. In the account which follows of selected studies, it will be seen that in most cases a variety of approaches have been used in combination.

THE EFFECTS OF NURSERY EDUCATION

Short-term effects

A. A study by Cohen and Bagshaw (1973) attempts to examine the changes that it is claimed the nursery school can effect in young children. The main aims of the enquiry, which concentrates on broad indices of socialization, were:

- to examine whether improvements in the performance of pre-schoolers in the years before school were affected by attendance at nursery school (i.e. one 2 1/2 hour session per day, 5 days per week over 38 weeks, a total of 475 hours over the school year);

- to examine the effects of relatively-advantaged or relatively-disadvantaged homes on the performance of these children;

- to identify specific areas of behaviour where differences in performances were observable.

The sample consisted of 28 children aged between three and four years in a nursery school containing children from both relatively-disadvantaged and relatively-advantaged homes (the experimental groups) matched with 22 non-nursery school children (the control groups) from similar socio-economic home backgrounds (similar father's occupation and type of housing).

In a pre-test/post-test design all children were given the Gunzburg Progress Assessment Chart (P. A. C., I) of Social Development, which is in four sections:

- Self-help (table habits, mobility, toilet and washing, dressing);

- Communication (language, differences (e.g. sex, colour), number work, paper and pencil work);

- Socialization (play activities, home activities);

- Occupation (dexterity, agility).

These activities are graded in order of difficulty, A to G, A items scoring 1, and G items scoring 7. Separate

scores are obtained for Self-help, Communication, Socialization and Occupation, and by adding the sub-scores a grand total score is arrived at.

Children in the experimental and control groups were visited by one of the researchers either at home or at nursery school and with their mothers assessed in a 45-minute interview and observation session. One year later, the children were re-tested on the same schedule, pre-test and post-test scores being compared by 't' tests and analysis of covariance. In this design, the experimental group is used as its own control group, but in addition, a non-experimental matched control group is employed in order to permit further comparisons in terms of the degree of socialization changes that might be expected to occur as a result of the normal maturation of all the subjects.

On the majority of the measures used to assess the social development of nursery and non-nursery school children there was no evidence of higher performance in the nursery school group, and it was concluded that the test data did not show a significant overall improvement among those who attend nursery school as compared with those who do not. Differences were, however, found between nursery and non-nursery school children on a most important section of the Social Development Schedule, namely the area of Communication. The study is said to demonstrate the value of this aspect of nursery school experience for both relatively-privileged and relatively-underprivileged children, while not suggesting that a nursery school programme will eliminate initial differences between relatively advantaged and disadvantaged children.

B. Paul Widlake (1973) also carried out a small-scale investigation of the effects of British pre-school education, with the emphasis on the effects of early schooling on social competence, as measured by the Vineland Social Maturity Scale.

Eleven children, aged six to seven years, from a British infant school in a deprived area (experimental group), all of whom had attended a high-quality local education authority nursery school for at least a year, were matched with a control group of children who had not attended a nursery school, on ethnic group, intellectual capacity, level of ability in reading and time spent in the infant school. The tests used for matching were :

- The Southgate Group Reading Tests;
- Raven's Coloured Progressive Matrices.

The tests used for comparing the progress of the two groups were :

- Social competence : the Vineland Social Maturity Scale;
- Verbal ability : the English Picture Vocabulary Test I (age range 5 : 0-8 : 11);
- Goodenough's Draw-a-man Test;
- A listening and remembering test (based on a test described in D.E.M. Gardner's book "Experiment and Tradition in Primary Schools", Methuen, 1966). This test was intended to compare the ability of the group to listen carefully and to remember what they were told for a short time. A story was compiled and read to the children, who were then asked to draw a picture about the story, putting in as many things as they could remember. The actual quality of the drawing was not taken into account, but points were awarded for including anything mentioned in the story.

Analysis of the data showed that the nursery school children's mean social quotient was significantly better than that of the non-nursery-school children ($p < .01$: Mann-Whitney U-Test), but there were no significant differences between the experimental and control groups on the English Picture Vocabulary Test and the listening and remembering test.

C. In Dumbartonshire, Scotland, Lomax (1974) working with Margaret Clark at the University of Strathclyde has been carrying out a study to evaluate the effectiveness of a newly-opened nursery school in the area. The main aim of the enquiry was to ascertain whether two successive intakes of children to two primary schools, most of whom had attended nursery school, would show any differences on a battery of "reading readiness" tests from an earlier intake of children who had not had an opportunity to attend nursery school. The nursery school programme included traditional as well as more structured activities, including some based on the work of the Gahagans (1970) and Bereiter and Englemann (1966).

A battery of both standardized and specially designed tests was used to measure auditory and visual short-term memory; matching, recognition and copying of shapes; auditory discrimination; vocabulary and reading. These included :

- Auditory Sequential Memory and Visual Sequential Memory (sub-tests of the Illinois Test of Psycho-linguistic Abilities);
- Drawing of a circle, square and diamond;
- The Bender Gestalt Test for Young Children;
- Goodenough Draw-a-man test;
- Information Test and Vocabulary Test (sub-tests of the Wechsler Pre-school and Primary Scale of Intelligence);
- The Burt (Re-arranged) Word Reading Test;
- The Neale identification of lower case and capital letters supplementary diagnostic test 1;
- The English Picture Vocabulary Test;
- The Wepman Auditory Discrimination Test;
- The Rutter Behaviour Questionnaire Child Scale B (Infants).

Long-term effects

Douglas and Ross (1964) examined the later progress of those children studied in the National Survey of Health and Development (N=5, 362) who, at the age of four years, were spending at least two hours per day at local authority nursery schools or classes. 130 boys and girls attended nursery schools and 160 went to nursery classes (the sample as a whole is referred to below as the "nursery school" sample). Complete educational information was obtained on 224 of these children (77.2% of the original sample), and it is possible that some distortion results from the loss of some children from the sample. It is important to note that the nursery school children differed in the three major respects from the rest of the sample :

- they lived in homes that were more crowded and had fewer amenities;
- their mothers gave the children poorer standards of care;
- a larger proportion of mothers were in paid employment.

The nursery school group were likely, therefore, to be more emotionally and educationally vulnerable than an unselected group of the same population.

All the children in the National Survey sample were given the following tests of general ability and educational performance:

At age eight:

- National Foundation for Educational Research (NFER) Picture Test I (60-item non-verbal test);
- NFER Sentence Reading Test I (35-item reading comprehension test);
- A 50-item word reading test)
- A 50-item vocabulary test) same list of words used in both these tests.

At age 11

- An 80-item verbal and non-verbal ability test;
- A 50-item arithmetic test;
- The word-reading/vocabulary tests given at age 8.

At age 15

- Group Ability Test AH4 (verbal and non-verbal);
- Watts-Vernon Reading Test;
- Mathematics Test (47 items) - specially constructed.

In each social class, the children who had had nursery education made higher scores on these tests of ability and attainment at eight years than the average survey child. By the age of 11, however, they had lost this initial advantage, and by 15 had all fallen slightly behind. None of the differences was statistically significant.

Douglas and Ross also looked at the behaviour at 13 and 15 years of those children who had had nursery education. On the basis of teachers' adjustment ratings, 14 boys out of 140 were regarded as highly maladjusted, as compared with an expected 10 on the basis of the general results; for the 123 girls, 12 were highly maladjusted, against an expected 10. This picture was confirmed by records of court appearances (21 offenders as compared with 16 expected). The authors emphasize that, because of the size and nature of the sample, no firm conclusions about the long-term effects of nursery education can be drawn: it may well be the case that if a group of children who were highly vulnerable at school entry had not been given substantial help, that is, without nursery education, they might have been worse off.

THE EFFECT OF SPECIAL PROGRAMMES

General cognitive stimulation

A. Since the summer of 1968, the National Foundation for Educational Research has been engaged in a pre-school action research project designed to introduce and evaluate a compensatory programme of language, perceptual and general cognitive training for disadvantaged children attending nursery schools maintained by local authorities (Williams, 1973). The project has been carried out in five nursery schools in Slough, Buckinghamshire. In one school the Peabody Language Development Kit (the aims of which are to increase command of grammar and vocabulary, to encourage verbal fluency and comprehension, and to develop powers of auditory and visual discrimination) was introduced and given a monitored trial over three terms. As a result, the kit was revised and used in three nursery schools, with about 80 children regularly participating in a full compensatory programme. Supplementing the Peabody Language Development Kit is a more loosely organized scheme of perceptuo-cognitive training, with direct training in auditory and visual perception. A checklist helps teachers and aides to encourage the children to take full advantage of the equipment available.

An assessment of the performance of nursery school leavers was carried out on three tests - the Educational Testing Service's Pre-school Inventory, the E.P.V.T., and Beery's Developmental Test of Visual-Motor Integration (form-copying). The Boehm Test of Basic Concepts has also been used; this test was designed to assess the concepts which are used in instructional materials employed in the USA and which are required for adequate communication in the classroom. Other tests used in the project include a revised version of a picture test devised by Gates and MacGinitie for children in Grade 1 of the US system (to test reading ability in the infant school), a test of basic mathematics, and a scale of adjustment to school (both these devised by the project). A scale of emotional adjustment (Eisenberg et al., 1962) has also been used with the pre-school children.

Parents have been involved in a variety of ways, and intra-class differences have been studied. The final report of the project's work has not yet been published.

B. As part of an Educational Priority Area research project sponsored by the Scottish Education Department and the Social Science Research Council, an experimental study of educational compensation was carried out in Dundee, initially involving 526 children from nine pre-school establishments (Harvey and Lee, 1974). In a pre-test/post-test design, the following tests were used:

- The English Picture Vocabulary Test;
- Selected sub-tests, mainly from the performance section of the Wechsler Pre-school and Primary Scale of Intelligence;
- The Reynell Developmental Language Scales;
- The Wug Test (Berko 1958) - a measure of linguistic maturity.

The effects of a specially devised programme, concentrating on specific aspects of the children's cognitive development, were examined mainly on the basis of comparisons between an experimental group and two control groups. It was found that the strategy adopted for evaluating the effectiveness of the pre-school programmes was adversely affected by the severe loss of children from the sample, amounting to 37%. The analysis, while providing strong evidence for the value of the various forms of nursery schooling and playgroup for all the groups, showed that while many of the comparisons between the experimental and control groups were in the expected direction, few were statistically significant. However, Harvey and Lee, emphasizing that the project has shown that it is possible to devise a full-scale programme of concept development which combines psychological theory with "the accumulated pragmatic wisdom of the nursery school teacher", draw attention to the distinction between statistical significance and what is significant for educational policy.

Language programmes in school or playgroup

A. The British Educational Priority Areas (EPA) project (Halsey, 1972) selected Level P of the Peabody Language Development Kit for experimentation in the EPA context. The Peabody Language Development Kit was introduced on an experimental one-year basis into seven nursery classes and playgroups in three out of the four project areas.

The experience of the nursery teachers and assistants using the kit was considered to be a crucial part of the evaluation of the experiment. At the end of the year, all eleven involved were interviewed to ascertain their opinion of the Peabody Language Development Kit, the ways in which they had used it in their groups, and the benefits, if any, they felt it had given the children. Some reactions were critical, especially about the didactic nature of the manual, but on the whole the teachers felt that a British version of the Peabody Language Development Kit would be worth developing. Controlled comparisons were also made between the experimental groups and children not receiving any special programme. For this purpose, the Pre-school version of level 1 of the English Picture Vocabulary Test and the Reynell Developmental Language Scales were used (these give separate scores for verbal comprehension and expressive language).

In making comparisons between experimental and control groups, the problem of turnover of children in the groups proved to be very serious. At the beginning of the experiment, 20 to 30 children had been tested in each nursery class or playgroup; by the end of the year, there remained of these on average only 15, with the numbers in the different groups ranging from 23 down to 9. Because of this very few of the differences between the Peabody Language Development Kit and control groups were statistically significant. However, most of the children were said to have enjoyed the programme and did show an improvement in language development over the year.

B. In the Schools Council Pre-school Language Project at Leeds, a somewhat different approach from that of the structured kit has been developed (Tough, 1973). The aim of this project was to discover whether it might be possible to give advice to teachers that would be practicable when applied in the nursery classroom. The emphasis was put on dialogue between child and teacher. Natural play situations and collections of materials were used to provide a starting-point for conversation with the child. Picture-story books were designed both to stimulate the child's interest and to give the teacher an opportunity to help the child to think in different ways and talk about his ideas. A guide to the appraisal of children's use of language has also been completed.

Tough states that it was discovered that teachers do not have time for testing, but making some appraisal and fostering the child's development are not incompatible. The teacher is able to learn about what the child can do with language at the same time as stimulating the child to use language for his own purposes and for extending his thinking.

As an extension of this project, a new Communication Skills in Early Childhood project has recently been launched.

C. Although not concerned with formal education, the enquiry carried out by Barbara Tizard et al. (1972) in residential nurseries in the United Kingdom is of relevance. In this investigation, observational studies were made of 85 children aged 2-5 years in thirteen residential nursery groups. The aim of the study was to relate the language development of the children to the amount and quality of adult talk directed at them, and both these factors to the way in which the nursery was organized. Methods used included:

- Observation of staff behaviour, using time-sampling techniques and schedules covering (a) staff activity, (b) staff talk, (c) child talk;

- psychological testing of the children, including (a) The Reynell Developmental Language Scales, (b) Minnesota Pre-school Scale (non-verbal section);

- interviewing of nursery staff.

No "institutional retardation" was found, and the mean test scores on both verbal and non-verbal tests were average. Significant correlations were obtained between the language comprehension scores of the children and both the quality of the talk directed to them and the way in which the nursery was organized.

Number programmes

As part of the EPA project's programme, a number conservation scheme was tried out in Birmingham (Halsey, 1972). This scheme attempted to use the large amount of standard apparatus already found in nursery and infant classrooms but often used by teachers in an unstructured way. It was used by three groups, namely a playgroup and two voluntary nurseries, over a whole year. The children were tested on the two language tests already mentioned as well as on a specially-constructed test for number concepts. Difficulties usually encountered in using Piagetian-type tests were met by making the procedure for administering the test uniform. While mixed results were obtained, it was concluded that for many children the programme was effective in accelerating the course of conceptual development in number. It is of relevance to note that in the case of the number conservation playgroup, which did not register progress, the staff found pressure of work too great to keep up the scheduled lessons throughout the year.

Programmed instruction

Apter et al. (1974) have surveyed research on the use of programmed instruction with pre-school children including work on operant conditioning and with teaching machines. They conclude that achievements in all the areas surveyed imply that there is more scope for the development of programmed instruction with young children than has been previously realised, but suggest that research may be needed to check that there are no long-term undesirable side-effects.

Television

The American television programme Sesame Street, designed for pre-school children, has aroused a great deal of interest in the United Kingdom, and in 1971 programmes shown by various independent television companies were monitored by the Independent Television Authority in association with the National Council for Educational Technology (ITA Report, 1971). Monitoring procedures included observations of children's reactions to programmes, as well as obtaining reports from teachers and mothers on the programmes. While

reactions to the programmes were very varied, and the American flavour of the material tended to be a drawback in the general acceptibility of the programmes, there is little doubt that television can make a real contribution to pre-school education. A feature of Sesame Street is the very precise statement of the instructional goals which has guided its production (Ball and Bogatz, 1970; Bogatz and Ball, 1971).

Mother-child interaction

Donachy (1973) carried out an enquiry in Renfrewshire, Scotland, designed to test the hypothesis that the general intelligence and linguistic competence of culturally deprived pre-school children would rise significantly when they had been exposed to a home-based programme which enhanced verbal interaction between the children and their mothers. He compared an experimental group of nine children with two control groups (each of nine children), all living in a deprived area and meeting cultural deprivation criteria, on the Stanford-Binet Intelligence Scale and the Reynell Developmental Language Scales, before and after the exposure of the experimental group to six months of weekly home sessions during which health visitors used toys and books to stimulate verbal interaction between mother and child. To take account of a possible Hawthorne effect, one control group received weekly visits and non-experimental gifts from health visitors, while the other control group received no intervention between tests. The experimental group's gains were significantly greater than those of the other group in I.Q. but not in language. There have been further developments based on this pilot study in Renfrewshire, and a project focusing on mother-child interaction has been organized through schools in deprived areas, with promising results. Incidental benefits of this approach include the better motivation of the parents and schools, a diffusion effect on siblings and others, and improved parent-teacher relations.

Therapeutic playgroups

Since 1968 the National Society for the Prevention of Cruelty to Children (NSPCC) has been establishing a number of playgroups intended to have a therapeutic effect upon the development of pre-school children from deprived, disturbed or restrictive family circumstances. As part of a general policy to evaluate the social action of the NSPCC, a research enquiry was initiated in 1971 in ten therapeutic playgroups, with the main aim of examining the nature and extent of any effects on the children involved, resulting from the experience of a therapeutic playgroup situation over a period of time (Rose, 1973). Information was gathered on 273 children, aged 6 to 70 months on admission and coming mainly from socially disadvantaged homes, by means of a specially designed family record form and the Denver Developmental Screening Test (Frankenburg et al., 1970), administered at intervals. An analysis of individual children's gain scores in the four areas of functioning examined - gross motor, fine motor-adaptive, language and personal-social - was not able to show significant effects of playgroup experience upon developmental retardation, even though most of the children attended the playgroups regularly for a period of twelve months or longer. However, owing to gaps in the data available, this analysis had to be confined to a small sample of the most severely retarded children, and was at odds with anecdotal and observational evidence about the value of NSPCC therapeutic playgroups. Further, it was found that the longer the children attended the playgroup, the less retardation was evident in the areas of fine motor-adaptive and language development. Rose emphasizes that the enquiry reported should be regarded as a pilot study, and that further research is being undertaken to examine the long-term effects of particular types of playgroup experience, the variability between playgroups, and the effects upon parents of playgroup involvement.

CONCLUSION

The difficulties inherent in evaluating educational programmes are well-known, and the studies described above illustrate the main weaknesses of evaluation studies of pre-school education, viz:

1. The smallness of the samples studied. This is exacerbated, particularly in deprived areas, by losses from the original sample. The low numbers involved may make statistical analysis hardly worthwhile.

2. Sometimes only one nursery school is involved. The individuality of schools does not encourage the making of generalizations from a study which is confined to a single institution.

3. It is difficult to know exactly what is meant by a "non-nursery-school" group, i.e. what informal education such children may be receiving. Similarly, precise details about the nature of "nursery schooling" or playgroups are usually lacking, though more information is given in the case of special programmes.

4. Owing to the dearth of British products, as previously mentioned, American programmes and tests are often used.

5. In making comparisons between "experimental" and "control" groups, the Hawthorne effect of being involved in a research project on the control group is not always taken into account.

On the credit side, researchers in the United Kingdom have not been particularly concerned with assessing global rises in I.Q. as a measure of gain resulting from an educational programme, but have preferred to use more precise measures of improvement in specific areas. However, as stated above, with the exception of experiments such as that of Donachy, most studies have put the emphasis on the assessment of gains by means of tests. The use of tests with pre-school children is open to criticism. For example, Carden (1972) has observed that test results may be deceptive in that what the child has learned to express on a test may not have been assimilated into his total linguistic and cognitive system, and that most standardized tests are not designed to show specifically what a child does or does not know. She stresses that it is essential to include observations of children in situations natural in their own culture in any complete evaluation plan. Nevertheless, justified as these comments are, it may be argued that observational techniques are not free from defects (Cooper et al., 1974), and that there is still a need for more and better tests of various aspects of early development, even if it must be recognized that young children's responses in the test situation may be very erratic.

Lomax (1973) comments that one reason for the difficulty of interpreting the results of experimental programmes is that so many new variables are introduced simultaneously. She advocates that precise questions should be formulated relating to the skills and concepts to be developed by a programme, that a careful record of each child's reactions during the programme should be kept, and that post-test measures should include direct tests of the relevant concepts or skills as well as, or instead of, standardized tests of intelligence or language ability. It is likely that studies evaluating early childhood education in the United Kingdom will become increasingly sophisticated, but only if greater resources are available for such work than is the case at present.

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APPENDIX

Some British Tests and schedules used in research on early childhood education

Developmental/Cognitive

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RAVEN, J.C. Coloured Progressive Matrices. NFER.

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A SUMMARY OF TRENDS REVEALED IN THE NATIONAL SURVEYS

K.-G. Stukát

The concept of evaluation

Evaluation in its educational sense means assessing to what extent a curriculum or an instructional programme fulfils expectations and goals. Within this general concept of evaluation there exists considerable variation with respect to purpose and approach. This variation is clearly reflected in the national surveys as well as in the special papers presented as an Appendix.

As to purpose, evaluation can be part of the successive development and adaptation of a new programme (formative evaluation) or it can aim at yielding information about the fully developed version of a programme (summative evaluation). Often related to this difference of purpose is the distinction between "process" and "product" evaluation. In the former case the focus of study is on teaching-learning situations and teacher-learner interactions, while product evaluation refers to pupil changes (in achievement, attitudes, etc;) resulting from the programme.

The methods used in evaluation vary too. Evaluation can be mainly a descriptive analysis, e.g. when the purpose is to "illuminate" the essential features of an educational programme. Up to the present most evaluation studies have, however, been designed as experiments with the curriculum as independent variable. The measurement instruments used vary from standardized tests to more informal methods such as interviews and subjective reporting. With respect to time perspective, evaluation can either be limited to shedding light on short-term effects or be extended to become a long-term follow-up study. The evaluation can be the responsibility of the team which develops a new programme (internal evaluation) or it can be performed by an outside, independent body of researchers (external evaluation).

Social factors and policy issues related to evaluation research

Although the amount of completed evaluative research in the European pre-school field is relatively modest, a positive trend is reflected in the quite substantial number of studies under way. This growth of evaluation research is no doubt related to the increased interest in and expansion of pre-school provision, which is a common feature of all the countries surveyed. As pointed out in Nufer's paper, there has been some time variation between countries with respect to the onset of the reform activities, but pre-school seems by now to be a centre of educational interst almost everywhere. From the background analyses in the national surveys it is evident that similar factors lie behind the current lively activity in early childhood education. The following are some frequently mentioned factors:

- growing awareness in society of the importance for the child of early stimulation and learning opportunities,
- the increased number of mothers in employed work,
- changed attitudes towards the woman's role in society,
- the inability of the small nuclear family to provide adequate social stimulus for the child,
- the dangers and lack of play opportunities in the urban environment.

When discussing pre-school research in Europe, the variation between countries should be kept in mind, particularly the considerable age variation. In most countries school begins at the age of six, but in the United Kingdom one year earlier and in Scandinavia one year later. This means that pre-school covers different age periods. Furthermore, the attendance rate at pre-school varies a great deal. In Belgium and France practically all four- and five-year-old children go to pre-school (thus quantitatively giving it a school aspect), while in Scandinavia only a minority of the children in these age groups attends pre-school. A natural consequence of this variation is that a corresponding variation in age emphasis can be found in pre-school evaluation research.

The national surveys also describe a number of qualitative features characteristic of the evaluative research in a particular country or group of countries. Such unique features are usually related to special circumstances. In his special paper (Appendix) Kohnstamm has given examples of how evaluation is influenced by historical, social and cultural factors. Further illustrations are found in the surveys.

For example, Schmalohr points out that a good deal of evaluation research in the Federal Republic of Germany is being devoted to parallel studies of nursery school and preparatory classes ("Vorklassen"). This emphasis is explained by current policy issues which have many facets: whether the five-year-old child should be taught together with younger or older children (or in a single-age group), have a kindergarten or a school-oriented curriculum, belong to the school or the welfare system. Other issues are whether the institutions should be mostly state run or run by private organizations, and under what legislation they should mainly fall. Even a strictly educational issue, structured versus open curriculum, is affected by the complicated situation as regards policy that has given rise to extensive German evaluation research.

The evaluation studies in the United Kingdom described by Chazan refer, to a considerable extent, to programmes for socially disadvantaged children. It is shown how this emphasis is related to the Plowden report and its policy recommendations concerning positive discrimination and educational priority areas.

Considering the close connection between the aims and objectives of an educational programme and the evaluation procedure, one would expect to find national variations in the choice of criterion variables reflecting educational differences. No such clear pattern can be detected. It may be that the aims and objectives of pre-school in the various countries do not differ very much. As pointed out by Thirion, it is also possible that pre-school goals are often defined so vaguely that the derivation of criterion variables from them becomes a rather subjective matter.

Methodological trends

Most evaluation studies have been designed as comparative experiments, often of the "quasi-experiment" type, with efforts to make or find equivalent comparison groups. This seems still to be the preferred design for summative evaluation purposes. The model for evaluation presented by Laurent-Delchet represents a further elaboration of this general design with the addition of feedback and successive hypothesis testing. A discernable trend is the tendency to complement the experimental design with a more descriptive analysis, focused on the educational process rather than on the products or effects of a programme. Particularly for formative evaluation this procedure is more and more regarded as useful.

As to choice of evaluation instruments, there is a desire to reach a better congruity between curriculum objectives and criterion variables. A single global measure of development such as IQ is no longer considered adequate. A more varied set of instruments is increasingly used in evaluation experiments. In Chazan's and Ruoppila's special papers (Appendix) are illustrated a number of new devices for use at the pre-school level. The former author has also identified sources of error in testing young children and suggests possible ways to improve procedures. Thirion emphasizes testing pitfalls and recommends analytic and diagnostic evaluation as part of a functional analysis which should also include observation of the child's behaviour, social interaction and situation.

Other instruments than tests are also being used for evaluation purposes. Schmalohr's table (p. 84), listing procedures applied in German projects, exemplifies the trend towards the use of a variety of instruments besides tests: direct observation, video-recording, attitude inventories and day-to-day notes. As pointed out by several authors, the reliability and validity problems as regards the new types of instrument are no less, rather more, serious than those for tests. The difficulties are particularly pronounced when it comes to instruments for measuring non-cognitive variables, such as social competencies.

To an increasing extent pre-school evaluation is performed as action research, with close co-operation between researcher, teachers, administrators and sometimes parents. Modifications to the curriculum being developed are made continuously. For the researcher this implies a new professional role. Admitting the values of action research, Schmalohr (Appendix) points to the risks involved in confounding development and evaluation, and suggests a number of precautions against subjectivity errors, mainly the separation of the evaluative function from other parts of the curriculum work.

It is emphasized in the national surveys and the special papers that evaluation can be performed for different purposes and that, as a consequence, the aim of an evaluation should be stated clearly. Only under that condition can approach, design and instruments be chosen adequately. The French survey particularly stresses the need for a systematic global analysis of the territory to which evaluation is related.

The national surveys illustrate various difficulties that are connected with pre-school evaluation. In addition to those already mentioned, a number of other problems have been stressed, such as smallness of the samples studied, narrow time-schedule, inadequate definition and control of experimental variables, Hawthorne effects, lack of adequately trained researchers, lack of economic resources and unrealistic expectations from commissioning bodies. Ruoppila draws attention to the fact that evaluation has up to now been predominantly focused on the child. He argues that it is equally important to evaluate the child's educational environment, above all the teacher variable.

Evaluation of general and special pre-school programmes

The surveys refer to evaluations both of general curricula and of more specific programmes. In some countries the former evaluations include studies of existing pre-school facilities, either by comparison with "home" children or in parallel experiments involving kindergarten and preparatory classes. In countries with a well established pre-school system such studies are lacking, partly because it is difficult to find control groups and partly because the need for evaluation has not been felt. The overall results from those evaluations that have been carried out are not conclusive. The short-term effects have often been positive, but not always so and in the very few long-term follow-up studies that have been conducted, effects have only exceptionally remained after a period of one year or more.

The favourable results produced by evaluations of new experimental pre-school curricula have been somewhat more clear-cut, although the long-range effects have usually been uncertain. A number of projects of this kind are, however, under way, and a definite judgment must be postponed until they are reported. A recognizable characteristic of the development of new pre-school curricula is a trend away from extreme polarization. While early experimental programmes were sometimes located at one end of such dimensions as structured-open, cognitive-social and skill-personality development, most new curricula have chosen a more integrated approach, although with some particular emphasis. Another feature of present curriculum development in the pre-school field is the desire to involve the parents in team approaches. This trend is expressed in such initiatives mentioned in the surveys as child centres, playgroups, home visitors and the parents' co-operation in developing "didactic units". A good deal of present evaluation work is devoted to such activities. Associated with this development is an increasing trend to view early childhood education from a broad social standpoint rather than to take only a narrow educational view of pre-school problems.

The more specialized pre-school programmes, which have been evaluated or are under evaluation, represent a wide range of activities. Attention is given to various developmental aspects, some of them hitherto rather neglected, such as motor, number, language, creativity and social-emotional functions. Some projects focus on educational issues related to changes and innovations in the society, for example traffic and television. A growing number of projects take up special problems of current interest: parent-child interaction, transition between and co-ordination of pre-school and primary school, and staff training. At the same time there are important problems which have not yet been taken up by research. Ruoppila draws attention to the need to evaluate early education for children of parents who are shift or night workers.

In recent years compensatory programmes for socio-culturally disadvantaged pre-school children, including immigrant children and children in sparsely populated areas, have become a frequent object of evaluative research. The studies are not limited to effect evaluations but also include analyses of social and individual factors interacting with the educational programme. Parallel to the empirical research in this area has run a lively theoretical and ideological discussion on the concept of compensatory education. The trend is towards approaches which aim at an optimal balance between individual- and group-oriented actions. Another tendency is to involve parents and home environment in the remedial programme to a greater extent than has been usual. Some researchers argue strongly against "pathologization" of the problems experienced by children from deprived backgrounds and have stressed the necessity to analyse the social and educational factors behind school failure. Another point that is often made is

that the compensatory education problems cannot be solved by pre-school alone, a reconsideration of the primary school curriculum is also needed. As a consequence, evaluation is considered necessary with respect to pre-school-school transition procedures and to compensatory measures taken in the early grades.

In spite of many unsolved problems, the overall impression from the current research reported in the national surveys is favourable. In a very short time pre-school has developed into a very active and dynamic research field, and the trend is positive. So far, small-scale research has dominated, but there are signs reflecting a development towards more comprehensive and co-ordinated evaluation projects. It is to be hoped that this trend will lead not only to closer co-operation within but also between countries.

SUGGESTIONS OF THE WORKSHOP

In discussing the possibility of agreeing on certain recommendations concerning the evaluation of pre-school experiments, the members of the workshop recognized that, in view of the complex issues involved and the constraints usually affecting educational research, it was difficult to make suggestions which would be useful to all engaged in evaluation work. However, it was felt that it would be of value to emphasize those points on which there was general agreement in the course of the discussions of the workshop. Some of these points are dealt with more fully either in the main reviews or in the discussion papers and only brief summary statements are made below.

1. FUNCTIONS AND OBJECTIVES OF EVALUATION

It is important that there should be a variety of approaches to evaluation in the field of pre-school education, with the recognition that such evaluation may be carried out for many different purposes. Examples of the reasons for which evaluation studies are thought necessary or desirable include:

a. increasing knowledge

e.g. of the development of children and of educational processes; of the way in which educational systems are working; of the physical and social conditions affecting children, teachers and others involved; or of the effects of particular teaching methods, materials or programmes on children, parents and teachers. This knowledge may not always have direct practical applications, but in most cases will be helpful in decision-making and in understanding the operation of innovative programmes (see below);

b. helping decision-making

Both fundamental and applied research can be of help in decision-making, and while decisions in education are rarely, if ever, made on the basis of research findings alone, such decisions may be better considered if relevant data are available in a meaningful form. Those responsible for decision-making - including educational bodies at local and national level, fund-awarding agencies and school staffs - should be ready to consult evaluators at the early stage of formulating questions, and not only at the time when research findings are available;

c. creating an awareness of factors involved in innovation

Evaluation projects can create a greater awareness among educationalists of the factors involved in the launching, development and assessment of educational experiments, and thereby help to ensure that, at all stages, innovations are introduced with all possible care and thought;

d. helping to bridge the gap between theory and practice

Educational research is often criticized as failing to make much impact on educational practice. By its very nature, evaluation research can help to narrow the gap between educational theory and educational practice, particularly if opportunities are given for the involvement of practitioners in the evaluation procedures. By encouraging school staffs to participate directly in evaluation projects as well as to engage in discussions with the research team, a more open attitude to innovation might be promoted amongst teachers, and result in a more positive regard on their part for educational research (see Section 5 on Communication, below). Teachers and parents, too, should be given the opportunity to influence the direction taken by research projects.

2. METHODOLOGY

Context of research

Evaluators need to be fully aware of the historical, social, economic and political considerations possibly affecting the establishment and progress of a project, and should document these factors as fully as possible. Certain context factors might also be included as variables in the research design.

Research strategies

a. From the outset, evaluators should be explicit about what type or types of evaluation they are undertaking (e.g. formative and/or summative; product or process analysis), and whether their project is intended to assess long-term or short-term effects. On the basis of the review of pre-school evaluation research in the countries represented by the Working Party it would seem that the testing of educational effects through controlled experiments may have been over-stressed. While there is a growing tendency to add formative (internal) evaluation to summative (external, independent) evaluation, the kind of evaluation described as "illuminative" (1) has not received sufficient attention. The main aims of "illuminative" evaluation are to discover what it is like to participate in an innovatory scheme, to find out what are the innovation's most significant features, and to document how it is influenced by the various situations in which it is applied. Particularly, but not only, where small samples of children are involved, this type of evaluation is likely to be useful, though the findings from "case studies" may not be as generalizable as the results obtained from more traditional experimental models.

b. The selection of variables to be examined should be linked explicitly to the theories underlying the structure of the educational programmes being evaluated as well as to those underlying the hypotheses being tested.

c. The research strategies selected should be appropriate for testing the stated aims and objectives of the programme to be evaluated. To this end, precise questions need to be formulated relating to the skills and concepts to be developed by a programme. It should be noted, however, that the actual procedures followed in an educational programme may not in practice be in accordance with the stated aims of that programme, nor with the guidelines provided.

d. An inter-disciplinary approach should be adopted whenever possible. Imbalance results from neglecting the viewpoints of practitioners, or from stressing psychological, at the expense of sociological, approaches, and vice-versa. The multiple variables characterizing systems of early childhood education need to be considered in depth, and the wide variation in these systems calls for a diversity of approaches in the description and study of the variables involved.

e. Interaction effects are often neglected. These are of major importance and interest, and the research design and techniques employed should, in controlled experiments, allow the effects of interaction (for example, between particular pupil-characteristics and particular teaching approaches) to be examined. It may be possible to identify moderator variables which would be helpful in selecting appropriate programmes for particular children.

f. More emphasis should be placed on evaluating a varied range of skills and abilities, defined as precisely as possible, than on the use of global measures such as the I.Q., which is a concept of very limited value in the case of young children.

g. In addition to the examination of variables directly relating to children, attention should be given to variables relating to parents, teachers and organizing bodies, especially their values, attitudes and expectations. The importance of measuring children's environments is stressed in the review of research in Scandinavia by I. Ruoppila (pp. 122-140).

h. The effects of educational innovation and action research on the job satisfaction of teachers and on the attitudes and feelings of children and parents involved should not be overlooked in an evaluation project. There is a need to develop instruments to assess these effects.

i. While small-scale enquiries are useful as pilot studies and may be valuable at local level if "illuminative" evaluation is stressed, the results of these studies should not be presented as if generalizable to large random populations. In all studies, as much detail as possible should be given concerning the selection and nature of the samples involved.

j. As the first results of an educational experiment may be influenced by initial enthusiasm, replication of the evaluation procedures is desirable at a time when the results are less likely to be influenced by this factor.

k. A depth study of selected variables is a desirable complement to evaluation studies which consider a large number of variables simultaneously and perhaps superficially.

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(1) See Parlett, M. (1974). The new evaluation, Trends in Education, 34, 13-18.

3. RESEARCH TECHNIQUES

a. A multi-faceted approach to evaluation is desirable, e.g. using direct observational methods and teachers' ratings as well as tests. An analysis of the differences and similarities in the results obtained by various approaches will help to assess the validity of the data procured by means of a single method.

b. Where young children are concerned, very careful consideration needs to be given to the desirability of giving tests, the type of test to be employed and the interpretation of the results obtained from tests. It is stressed that individual rather than group testing is appropriate for the pre-school age group; that criterion-referenced as well as norm-referenced measures should be developed; that the conditions of testing should be as favourable as possible; that testers should receive adequate training; and that the factors affecting the results in any testing programme should be recorded (see discussion paper on "The Use of Tests in the Evaluation of Pre-School Educational Programmes" by M. Chazan, in Appendix, p. 175).

c. Details of the reliability and validity of all instruments used should be included in research reports.

d. Attention should be given to developing new techniques likely to prove useful in evaluation studies as well as to the further development of existing techniques which appear to be promising but on which little work has been carried out. New measures of certain skills, for example in the areas of language and social competence, are particularly needed, and international co-operation would be helpful in the preparation of tests which could be used in a number of countries and thus facilitate comparative research.

4. ANALYSIS OF DATA

Members of the workshop were conscious of the need for more consideration in depth to be given to the question of the analysis of data obtained in evaluation studies than was possible within the time available to them. They felt that it would be useful for an international working party of experts to be set up to consider the statistical problems arising in connection with the evaluation of pre-school experiments. Detailed suggestions, therefore, concerning the analysis of evaluation data are not given here, but the following points were thought worthy of emphasis:

a. The development should be encouraged of statistical models the underlying assumptions of which would match up to the complexity of the research problems being investigated.

b. As stated above, statistical analysis of evaluation research should increasingly take account of interaction effects. To this end, multi-factorial designs will often be more appropriate than gross comparisons of the mean scores of experimental and control groups.

c. Evaluation studies must go beyond considering significance in purely statistical terms and consider what may be significant in educational or social terms. Analysis of qualitative as well as quantitative data is desirable. For example, the analysis of children's errors or of their methods of problem-solving is of great interest and value.

5. COMMUNICATION AND CO-ORDINATION

Communication is often poor, both within the ranks of research workers and between researchers and the outside world. Improved co-operation and greater co-ordination are needed at national and international level. In particular:

a. Communication between research teams should be facilitated by the establishment of data banks and specialist library sections where documents relating to a particular area of enquiry, e.g. pre-school evaluation, would be readily accessible instead of being widely scattered as at present. This would help researchers to be more aware of previous work relevant to their own investigations.

b. Education authorities, teachers and others involved in evaluation projects should be consulted by the research team at an early stage, and fully informed of the purpose of the evaluation, unless research strategy dictates otherwise.

c. Where parental participation is an integral part of an educational experiment, ways of communicating with parents will need to be given careful thought. Indeed, in all evaluation projects, consideration should be given to parental involvement, as well as to the extent to which parents should be informed both about the educational programme under study and the investigation itself.

d. The results of evaluation research should, in addition to being reported in, for example, learned journals, be made available in a form suitable for teachers. Opportunities should be given to teachers to discuss findings with the research team.

e. There is a need to facilitate the dissemination of research findings. Long delays in the publications of reports in books and journals are a source of frustration to research workers and others.

f. Evaluators should be careful not to raise hopes about the value of innovative action before the results of that action are known, nor should they encourage undue expectations from educational innovation. This is particularly important in the case of early childhood education, from the expansion of which measurable results are currently expected by a number of educationists.

g. At present, most of the evaluation work being undertaken in the pre-school field is on a small scale, and therefore usually of limited value. To prevent the dissipation of scanty resources, greater co-ordination of research efforts is desirable, at national and international level.

6. PERSONNEL

The development of evaluation research is often held back by the lack of suitably qualified research workers. Attention needs to be given to:

a. the training of researchers for the complex work of educational evaluation, which often demands a knowledge of psychology, sociology and statistics as well as of educational methods and systems;

b. ensuring that an appropriate career structure is available for these research workers, so that experienced researchers are not discouraged from remaining in this field of activity;

c. examining the role and status of evaluators, and the pressures on them (see discussion paper on "The Changing Role of the Evaluator" by E. Schmalohr, in Appendix, p. 205).

7. EXTENDING THE SCOPE OF EVALUATION PROJECTS

Several members of the workshop stressed that, in examining the effects of early childhood education, the needs of several large groups of children have been neglected (see review by I. Ruoppila, p. 136). Among these groups were mentioned:

(i) the children of parents who are shift-workers or night-workers;

(ii) children living in isolated rural communities;

(iii) children of migrant workers.

It was also pointed out in the course of the deliberations of the Working Party that it was important to examine the possible effects of over-stimulation on young children, who might be exposed, for example, to over-long or premature experiences in a group situation.

8. IMPLICATIONS OF INCREASED SOPHISTICATION IN EVALUATION

Clearly, the greater sophistication in evaluation research recommended above means higher costs. However, the better the conditions in which evaluation is carried out, the more valid are the results likely to be. Further, while it is the province of evaluators to construct tools, whenever possible, for practitioners to carry out their own evaluation after a research project has finished, it is important that where findings indicate that a follow-up would be valuable, the opportunity should not be lost. It is hoped that fund-awarding agencies will give careful consideration to their policies in the light of the foregoing suggestions and recommendations.

APPENDIX

SPECIAL STUDIES

by

M. Chazan

G. A. Kohnstamm

M. Laurent-Delchet

I. Ruoppila

E. Schmalohr

A. M. Thirion

THE USE OF TESTS IN THE EVALUATION OF PRE-SCHOOL EDUCATIONAL PROGRAMMES

Maurice Chazan

DISENCHANTMENT WITH TESTS

In the past decade the use of tests in the United Kingdom has markedly increased: between 1962 and 1972 the National Foundation for Educational Research - the chief marketer of tests here - increased the number of standardized ability and attainment tests sold to local education authorities from 2 to 3,5 million (Goldstein & Folgelman, 1974). In spite of this - or perhaps because of this - an increasing number of psychologists as well as educationists have become increasingly dissatisfied with normative tests. A recent article by Burden (1973), an educational psychologist concerned with training, in the official Journal of the Association of Educational Psychologists, illustrates this trend. He argues in favour of complete rejection of standard psychological tests on the part of educational psychologists, stating that such tests "by offering deceptively easy solutions....encourage laziness and shoddy thinking". Perhaps this view is still a somewhat extreme and unrepresentative one, but some psychologists in Britain are certainly disenchanted with the global measures obtained from such widely-used scales as the Stanford-Binet and the WISC, and are looking for instruments which are more informative. It would be of interest to know whether a similar tendency is apparent in other European countries. The new British Intelligence Scale, currently being constructed, aims "to produce an instrument which will define in greater detail the strengths and weaknesses of a child in various areas of functioning with the ultimate intention of using such information as a guide to the implementation of various educational procedures" (Elliott, 1974), but the approach to the construction of this scale has not escaped criticism (Gillham, 1974).

GROUNDS FOR CRITICISM OF TESTS

Let us now look briefly at the grounds for the general dissatisfaction with psychological tests, not so much in a destructive spirit as to try to see in what ways they need to be improved or replaced.

Burden (1973) argues against tests on both scientific and ideological grounds. In his view, tests do not measure what they purport to measure. Many of the instructions and scoring criteria even of the most popular individual tests are vague, and no test is adequately standardized. Further, tests do not give us the information we really need.

From across the Atlantic Sigel et al. (1973), writing about the Early Childhood Project in Buffalo, also state that "our experience has raised considerable doubt as to the validity of traditional psychometric procedures" (p.58). He and his co-workers found that, at least in the numerical and language areas, performance in the classroom does not relate to performance in the testing situation: children frequently failed items in the formal situation (e.g. the concept of one) which they clearly understood in the context of their classroom. Further, Sigel considers that formal testing is an inadequate approach to multi-faceted problems and does not provide any explanatory bases for obtained change. Gazden (1972), too, stresses the limitations of most standardized tests, which are not designed to show specifically what a child does or does not know. In connection with a discussion on the evaluation of pre-school intervention programmes, she makes the point that test results in the more structured programmes may look deceptively good: what children have learned to express on tests may not have been assimilated into their total linguistic and cognitive system.

PARTICULAR DIFFICULTIES IN PRE-SCHOOL STUDIES

The problems relating to testing in general are greatly exacerbated in the use of tests with young children. We all know the inherent difficulties facing the tester of young children - their limited attention span and distractibility; their tendency to become bored, tired or fed-up very quickly; and their reaction to a strange situation. It is quite normal for pre-school children not to be wholly co-operative and to refuse to follow set instructions at a particular time. Further, as Messick and Barrow (1972) emphasize, in early childhood education we are dealing with a very complicated system - with a set of complex, multi-faceted organisms changing over time in interaction with diverse environmental influences.

At first glance, it would appear that at least in the USA there is a large number of pre-school tests and schedules already available, but few of these have proved really useful. Gallagher and Bradley (1972), reviewing techniques for the early identification of developmental difficulties, conclude that many of the tests available for this purpose are technically deficient - out-of-date, poorly standardized and of unknown validity. Ball and Bogatz (1970), in evaluating the effects of the first year of Sesame Street (the well-known television programme for pre-school children in America) found that the wide range of goals aimed at by the programme meant that a large number of variables needed to be measured. Few of the existing tests proved suitable for adoption or adaptation, and additionally, although the testing of pre-school children is a highly skilled task demanding considerable training and practice, the large numbers involved necessitated working with relatively untrained testers and, because it was desirable to test in the child's familiar environment, often in makeshift circumstances. Sigel et al. (1973) report that, having decided to test for variables that were directly relevant to the primary mission of the study rather than in terms of global IQ, they had to employ crude procedures, since there was little time to develop new instruments and so few appropriate ones were already to hand. While this was a matter for regret, "to employ only the true and tried (e.g. Stanford-Binet) shifts the nature of our assessment to global procedures, and this is a choice we did not want to make" (p.59).

The situation is well summed up by Scarvia Anderson (1973) of the Educational Testing Service in Princeton, USA, who observes that the results of large-scale evaluation studies at the pre-school stage have affected individual teachers, children and parents very little. In her opinion, the devising of measures designed to diagnose children's educational needs and to aid teachers to select appropriate classroom strategies to meet those needs has been overshadowed by:

1. the global assessment of generalized traits such as "intelligence" or "neuroticism";

2. the preoccupation with measuring people, not environments;

3. paying too much attention to "maximal" rather than "typical" performance;

4. seeing standardization rather than ratiocination as the chief means of establishing criteria of "adequate" test performance; assigning a primary role to predictive validity, as opposed to content or construct validity. Construct validation, which is an important but neglected area, is defined by Messick and Barrows (1972) as "the process of marshalling evidence in the form of theoretically relevant empirical relations to support the inference that an observed response consistency has a particular meaning" (p.270);

5. inadequate conceptualization of the traits and domains of interest to be assessed.

In an attempt to move away from the above preoccupations and deficiencies, the Educational Testing Service has developed Circus - a new battery of tests specifically designed to provide a comprehensive assessment of children in nursery schools and kindergarten. I shall return to this later, in the discussion which now follows of the ways in which approaches to testing may be improved.

IMPROVING TESTS AND TESTING

As Anderson (1973) states, the technical problems involved in the reliable and valid assessment of young children cannot be denied, but neither are they insurmountable. In such assessment, in spite of all their limitations, I think that tests have a place. After all, other methods of assessment are not without their pitfalls. For example, although it is important to include observations of children in situations natural in their own culture in any complete evaluation scheme (Cazden, 1972), direct observation has hazards of its own. Cooper et al. (1974), in studies examining the relationship between mothers' attitudes to child rearing and the way in which mothers actually behaved towards their children in a controlled situation, found that

1. it was difficult to decide which categories (e.g. molar/molecular) to use as a basis for observation;

2. there was surprisingly low inter-observer agreement on many of the behavioural categories involved;

3. the use of necessary but complicated apparatus at home presented problems; and

4. it cannot be assumed that children are affected only slightly by the presence of observers.

On the assumption then, which of course may be challenged, that it is worthwhile keeping tests as a part of evaluation procedures, let us consider in what ways the approach to testing may be improved at the pre-school stage:

1. Testers of young children should be given adequate training, and as far as possible testing should be carried out on an individual basis. Evaluation reports should be careful to give full details of the training of the testers involved, and, further, of the characteristics of the testers which might be affecting the results. Such characteristics might include sex, ethnic background, personal traits and educational background (Messick and Barrows, 1972).

2. It is important to examine the contruct validity of key measures, because it is possible that a specific behaviour or measure may reflect one underlying process at one time and a different process at another time (Messick and Barrows, 1972).

3. The discrepancies between test-situation performance and natural-context performance are themselves a source of interest and should be examined. If, as Sigel et al. (1973) suggest, the child is not able to perform as well outside his familiar environment as within it, this may tell us something about his cognitive status. It is worth-while, too, exploring the possible reasons for differences in scores over a period of time.

4. More resources need to be made available for the proper development of the most promising test instruments. In present circumstances, very few tests ever get beyond the small-scale pilot study stage, and yet are often used as a basis for research findings of apparent weight.

5. While there will always be a need for norm-referenced measures and for the development of more powerfully discriminating tests, the use of criterion-referenced tests will help the psychologist to move towards a much more systematic approach to the assessment of qualitative differences in functioning, the identification of meaningful learning criteria and the accurate assessment of the individual subject's performance with respect to these (Ward, 1970). Anderson (1973) warns against sharply contrasting "norm-referenced" tests with "criterion-referenced" tests: they supplement each other, and in any case normative ideas underlie or circumscribe criterion-referenced measurement. This is true, and difficult as the concept of "normal" development is, knowing more about norms of development would help us to evaluate special programmes rather better. However, the move towards "criterion-referenced" tests puts more emphasis on the growth of particular skills or competencies in children, and links testing with programme or curricular objectives. The careful sequencing of skills worked out and listed by, for example, Resnick (1967) at the Learning Research and Development Center at the University of Pittsburgh is a promising example of the design of an early learning curriculum, which can also form the basis for assessment, though assessment is not its primary objective.

ILLUSTRATIVE EXAMPLES

It may help our discussion if I mention some examples of fairly recent tests devised for use with pre-school children. I will confine myself mainly to British tests, but some mention is necessary, first, of the Circus battery newly published in the USA.

The Circus battery

The Circus battery of tests (Educational Testing Service, 1974) has been specifically designed by the Educational Testing Service in Princeton to provide a comprehensive assessment of children in nursery schools and kindergarten. Emphasizing that being tested must be fun for the children the battery consists of:

- Direct Child Measures (14): most possible without verbalization, e.g. receptive vocabulary, quantitative concepts, visual discrimination, perceptual-motor development;

- Indirect Child Measures: teachers' ratings of activities and behaviour, including an inventory of test-taking behaviours;

- Teacher-Program Measure: an Educational Environment Questionnaire on the children's educational environment, in terms of teacher descriptions of the class, school or centre, and programme, as well as self-reports of background, attitudes and educational values.

This battery is promising in its comprehensiveness and specificity in relation to learning objectives. It seems worth experimenting with on a wide scale.

United Kingdom

The Griffiths Mental Developmental Scales
(originated 1954; extended 1967)

The original scales for infants 0-2 years were standardized on babies in the United Kingdom. They consist of five sub-scales: (1) locomotor, (2) personal-social, (3) hearing and speech, (4) eye and hand co-ordination and (5) performance. Quotients are obtainable from each sub-scale separately, and a general quotient can also be calculated.

More recently, the scales have been extended, along more or less similar lines, for the age range 2-8 years (for a discussion of the use of these scales, see Carroll, 1972).

The Reynell Developmental Language Scales (1969)

These scales were devised for investigating language problems in handicapped children, but are now being used more widely, having been standardized on normal children, too. They provide a separate assessment of verbal comprehension and expressive language over the age range 1 to 5 years, there being two parallel comprehension scales, one being dependent on some hand function but not needing speech, the other designed for use with eye-pointing, requiring neither hand function nor speech. Three expressive aspects are assessed:

- development of language structure from earliest vocalizations to the use of subordinate clauses;

- vocabulary growth, using objects, coloured pictures and spoken words;

- language content, ability to use language for creative expression, in talking about coloured pictures.

The material consists of everyday objects, e.g. cup, spoon, as well as toys familiar to most children.

Qualitative information is provided in addition to a quantitative estimate in terms of norms of language development.

These scales have filled a gap and are proving useful, though for wide use they need an upward extension to provide a challenge for the more advanced children in the age group.

Gunzburg's Progress Assessment Charts (1969)

These, too, have been devised for use with the handicapped - particularly the mentally handicapped - to assess their progress in relation to other handicapped people, but again the lack of other tests has resulted in their wider use, including in pre-school evaluation studies.

The chart is an inventory of 120 skills graded according to difficulty and divided into four areas of social competence: self-help, communication, socialization and occupation.

Self-help	Communication	Socialization	Occupation
Table habits	Language differences	Home activities	Agility
Mobility	Number work	Play activities	Dexterity
Toilet and washing	Paper and pencil work		
Dressing			

Items are scored Pass or Fail by someone familiar with the child. The chart is not designed to give scores or quotients, though percentage scores for each area have been used. Whether a child passes or fails an item is recorded on a chart which has a figure consisting of concentric circles and divided into the quadrants mentioned above. The easiest items appear in the centre, the hardest on the outside.

This approach has proved extremely useful to those involved in work with the handicapped, and also with young children, as the use of the charts can be linked to individual educational programmes (Gunzburg, 1964).

Divergent thinking

Michael Shackelton-Bailey (1973, a, b) has made an interesting study of divergent thinking in four-year-old children attending nursery schools in South Wales, and the relationship between divergent thinking and personality and environmental variables. With a sample of 40 boys and 40 girls in three nursery schools he used six measures of divergent thinking, the first three based on existing tests (Torrance, 1966 - Minnesota Tests of Creative Thinking):

1. Circles: a sheet of paper is provided, with a number of circles printed on it. The experimenter shows the children how these circles can be "changed into something else" and then asks the children to change as many circles as he can into something different. The child can stop when he likes.

2. Unusual uses: for a small red tin.

3. Ask and guess: think of questions about a picture of Tom, the Piper's son, running away with a pig. Also, the child is asked to guess what is going to happen next.

4. and 5. Plasticine and Tinkertoy (a commercially produced 183 piece constructional set): modelling games, the child being encouraged to make as many different models as he can think of.

6. Light Matrix Test: a machine in which 256 one-inch perspex squares light up when pressed and turn off if pressed again. A black and white picture in lights can be built up. This has a number of advantages over painting or drawing as an assessment medium, including:

   - children have no previous experience of such a device - thus reducing reluctance to try the task;
   - the device arouses and maintains interest in nearly all children;
   - speedy erasure or alteration of errors is possible, so than an idea can be sustained.

Social and emotional adjustment

In this area, systematic schedules are mainly used, asking for ratings on 3, 4 or 5 point scale (Chazan et al., 1971; Herbert, 1973). We might consider whether there is a need to develop additional techniques to assess aspects of social and emotional development. Shackleton-Bailey, to obtain measures of personality characteristics in his nursery school sample, used some ingenious practical tests to assess conformity, self-esteem and perseverance - including the Starkweather and Cowling (1964) form-boards, a post-box along the lines used by Bene-Anthony (1957), and a puzzle-box impossible to open. These kinds of test are certainly fun for the children: should we develop other techniques along these lines?

The book edited by Mittler, P. (1970), although concerned mainly with mental and physical handicaps, is a useful source of reference on tests in current use.

CONCLUSION

Much more could usefully be said on the subject of testing pre-school children, but perhaps I have said enough to stimulate discussion. To recapitulate the main questions I have raised:

1. Do tests give us the information we really need in the evaluation of pre-school educational programmes?

2. Can we, or should we, dispense with tests altogether in the evaluation of such programmes?

If so,

3. How should we replace them?

If not,

4. In what ways can our tests and testing procedures be improved?

5. In what areas are there particular gaps?

6. Are we testing in the most appropriate areas?

7. How valuable are criterion-referenced tests?

8. Do we need some completely new tests?

9. To what extent can tests be successfully and validly used across countries and different cultures?

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EXAMPLES OF HISTORICAL, SOCIAL AND CULTURAL INFLUENCES ON THE EVALUATION OF PRE-SCHOOL EDUCATION

Dolf Kohnstamm

"Research methodologies in social science are themselves elements of culture."

Basil Bernstein (1973)

The explicit and implicit goals of pre-school education, just as the different forms in which these goals are realized, are products of the culture and period in which the pre-school education takes place. In this respect it makes no difference whether we think about pre-school education, school education or education in general. All evaluation questions with regard to pre-school education are determined by the culture and period in which they are raised.

A workshop, such as the one reported here on the evaluation of experiments in pre-school education, was not held 20 years or 50 years ago, nor has it (not yet?) been held in Moscow, Djakarta or Sao Paolo. One finds in the paper prepared by Mrs. Laurent-Delchet for this workshop that the year 1968 was the one which saw the end of the second period of French pre-school thinking and doing and in which the third period began. In Professor Schmalohr's report one finds the years 1966 and 1967 as the years in which "a decisive change" took place in German thinking about the role of pre-school education. Similar examples could be given from other European countries. This workshop has been held as a result of the experimental pre-school activities which people from European universities and teacher training colleges started in the late sixties, and as a result of the fact that pre-school education has since obtained considerable public and political attention.

Evaluation of educational activities takes place only if evaluative questions are posed. Many of the existing educational activities are taken for granted without being questioned. This is also the case with pre-school activities. It is only when one is dissatisfied with existing circumstances that innovations are introduced. And then those responsible for the change want to obtain information on its results: Did the existing system change for the better or not?

As regards pre-school education, evaluations of this nature have been carried out ever since such a form of education existed. We all know the dissatisfaction which led Maria Montessori to create her brand of innovation. People from all over the world came to see Maria Montessori's schools, just as they came to see Decroly's schools or the British infant schools. They came to see, to know, to judge, to evaluate.

Today this kind of evaluation may be considered "soft", intuitive, subjective and may be contrasted with modern evaluation "in the narrow sense" (see Professor Schmalohr's paper for modern evaluation literature references), which is objective or at least as objective as possible, and consists mostly of arithmetic summaries of the common properties of many countable items of behaviour.

The evaluation procedures of the past are still being used and are not fully replaced by our new arithmetic ones. Today both kinds of evaluation are intermingled, and it seems impossible to disentangle the influence of the information coming from both.

In Professor Schmalohr's paper the complexities of this mixture and the social and political pressures behind German pre-school experiments and evaluations are described.

From this description it seems as if German pre-school education has no history. How different a picture emerges from Mrs. Laurent-Delchet's paper! This author makes it clear that French pre-school education of today is strongly influenced and conditioned by its past, whereas she makes little mention of social, ideological or political forces of today which see pre-school education as an important area of interest.

In several contributions to this workshop socio-economic factors related to the employment of women are mentioned as stimulating the growth of pre-school provision in densely populated and industrialized areas. The evaluation of pre-schools set up for this purpose should not be made on the same basis as the evaluation of pre-schools set up primarily to foster social or cognitive development in children.

In Mr. Nufer's contribution the vast number of children of foreign workers is mentioned as a major educational problem for Switzerland. It is hoped that the provision of pre-school facilities will be effective in teaching these children the language of the primary school. It is clear that evaluation in this case will be directed at this particular motive for promoting pre-school attendance.

When comparing pre-school organization between and within several European countries, one is often struck by the different opinions on what group size is acceptable for various age-groups. Group size is an important aspect of any educational provision, since it determines the amount of individual attention given to each child and the didactical style of the teacher: the larger the group the more the children have to conform and the less attention can be given to their unique personalities and problems.

In Europe there are countries and regions with strong catholic or protestant traditions. The values cherished by both churches for centuries have had long-lasting effects which can still be felt in many aspects of life. To quote a German colleague (Iben) on this subject:

> "Protestants tend to earlier training for independence and have a stronger orientation towards social climbing which can probably be explained by the protestant value hierarchy, in which personal accomplishments rank higher than obedience and submission to some higher authority."

It may be that factors like group size, style of teaching and the emphasis of a particular pre-school programme in a particular country are influenced by such cultural heritage. It is also possible, however, that this influence of the churches built on even more basic differences. What caused protestantism to die in France and to survive in the northern countries? European countries differ greatly in their climate and in their geographic nature. These basic differences probably have had long-lasting effects. Centuries of continental farming and warfare must have shaped people in other directions than have centuries of trading and warfare on the high seas. The defence systems of groups of individuals have always been a function of their location. Add to these "basic" causes the differential operation of religion, industrialization, commerce, class structure, etc. and a complex historic pattern results which until this very day influences our educational values and evaluations. But how? Certainly European-wide studies along these lines could help us understand better the present day differences which keep us divided, even when we try to co-operate in such seemingly "objective" and "neutral" matters as establishing criteria for the (sound) evaluation of experiments in pre-school education.

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The cultural and sub-cultural differences in values and (thus) evaluations mentioned above should not blind us to the fact that within Western Europe and North America, and even within universities, wide differences exist between individuals in the values (and evaluations) they cherish.

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These intra-cultural differences between persons may be ascribed to personal life-histories, genes, etc., but may also be seen as reflecting a human faculty to choose between alternatives.

LANGUAGE PROGRAMMES

Marguerite Laurent-Delchet

I. A REVISION

Our research implies a revision of speech and language teaching methods used in nursery schools. What we wish to do in this field is to institute a process of thorough change and reform of current teaching methods.

A broader concept

Our research also fits into the much broader concept of the reform of the teaching of French at all education levels. This endeavour is linked directly with the working hypothesis represented by the "plan de rénovation du français" at elementary education level. We deem it advisable to mention this at a time when, without renouncing its special role, the nursery school does not wish to be dissociated from the elementary schooling phase or by-passed by the trend towards the reform of objectives, content, methods, structures and relationships at all levels of State education. The effective protection of our institution and of our children calls for a constant effort at adjustment within this concept of educational continuity and of joint prospects of education reform.

II. SPECIAL PROBLEMS

II.1. By what means can we promote speech development in the 80% of nursery-school pupils who are deficient in this respect?

From the outset, therefore, emphasis is laid on the differences noted in children's attitude to the "language phenomenon" and their verbal productions in daily-life situations based on varying kinds of relationship. All our observations point to the same conclusion. Deficiencies of emotional origin change relational abilities and particularly the desire for verbal communion in many children. The inadequacy noted in the matter of emotional attitudes and individual or collective motivations is aggravated in the case of some children by the cumulative effect of language handicaps which often reflect inequalities of cultural origin.

This is a disparity which we have been able to appraise and should investigate in order better to define and adjust our educational measures.

II.2. Is the nursery school the one place where differences disappear or become attenuated? In the language field in particular, where these differences are so pronounced, do educational strategies really promote each child's progress from its own limited communication code to the more functional and more elaborate social code which it needs if it is to acquire the minimum culture the school will make available to it?

With our greater awareness of the fact that we might unconsciously contribute to the maintenance of social divisions and stratification, our responsibilities in this respect have become clearer to us. By treating children in a flagrantly unequal situation in an equal way, were we not unconsciously turning de facto inequalities into de jure inequalities? The growing number of migrant workers' children in our schools increased our awareness of the disparities observed and analysed. The presence of these children has made the harmfulness of certain concepts clear to us. The inequalities perceived by teachers are not, as they often think, due to differences in ability but to a serious disparity in initial culture. Were we not ourselves misled into making hasty and erroneous categorizations? Had not dangerous psychological tools and tenuous assessment systems led us at times along the same path?

II.3. At a time when it is proposed to change the children's first language learning system, is the support of oral language, which is essential, indeed available?

The many children who fail during the first year of elementary schooling (from the very first year of compulsory schooling onwards, one child out of four or five has to repeat a class) should have warned us. Were we responsible for this situation? Did we not start the children too soon on written language without making sure that the necessary conditions for embarking on these studies were fulfilled? Have we not invariably been inclined to treat the written language as the primary system to which implicit reference is made permanently? Did we not lose sight of the fact that teaching the written language does not mean "applying" system 1 to system 2 but adapting a system with special features, i.e. transforming the oral language system into another system with special features?

II.4. The child must acquire its status of "speaking subject". Do the relations which develop in our nursery school classes (even in those which are most favoured from the point of view of number of pupils) meet this new requirement?

The introduction of the new system of "signs" can be based solely on children's desire to speak and pleasure in doing so, on their "wish to communicate" which is an extension of their fundamental "wish to be" of their first relationship with their mother. If children do not experience the satisfaction derived from the ability to use the first system of signs, that of oral language, if, in other words, "speaking" gives them no pleasure or the possibility of anticipating or deferring the pleasure, they are also unlikely to feel the power derived from this "new relational object", this "unique symbolic object" which written language is. The full exercise of language is dependent on the factor pleasure; pleasure is a prerequisite if a child is to acquire its status of speaking subject and master speech and language.

It is this status that we must help a child to acquire. If we succeed in this fundamental task, the tool of language will become for each child an incomparable instrument of communication, a means of acquiring knowledge and of balancing and developing its personality. It is on this fundamental basis that we must, too, determine and situate all initial "differences" and inequalities. There is every reason to think that in many families children regard using language as difficult and a source of continual annoyance. The most difficult task is without a doubt that of reviving or arousing the "pleasure" of speaking in children who have been deprived of this experience of communicating with the outside world. For such children the difficulty is usually twofold, since it means progressing from the "limited" singular family code to the more elaborate language code used by the teacher at school.

What is one to think of collective language activities, of the "language periods" during which, according to Dr. Diatkine, the children who give the teacher pleasure are a constant source of embarrassment to the others because of the very pleasure the former give the teacher and because they form a permanent screen between her and the others in the class. Do we really have an opportunity to introduce into our overcrowded classes free communication and the permissive and non-standardized atmosphere which ensures it? Does the child really have an opportunity to speak, to explain itself, to speak frankly? Is not the communication which we believe we establish often illusory? Do not children often speak in dependent relationship? Do they really have every opportunity to use language and to structure their language in a relationship they desire?

II.5. Do they all have real pleasure in playing with language, in bringing it into play? Are words "objects of pleasure" for them? Do the situations and activities which we propose to them enable them to discover the structures of language with the same pleasure?

II.6. Do the language activities for children in motivated communication situations promote in all children the ability to deal constructively and functionally with highly specialized verbal matter? (cf. activity concept.)

III AIMS AND OBJECTIVES

It is the principle of equal opportunity which impels us to seek education and teaching strategies capable of:

- reducing the differences arising from unequal initial culture;
- preventing "maladjustment" and "failures" in the succeeding schooling phase (the remedial measures require a definition of these two concepts);
- awakening and developing the potentialities of expression, communication and creativity latent in all children;
- the conversion of these individual potentialities into ability, efficiency and know-how which can be observed and assessed since they are reflected in behaviour. (We do not wish to take into account the innateness of so-called "gifts" which we regard as values postulated arbitrarily.)

To develop these potentialities means translating them into operational terms or definitions which reveal unequivocally "abilities" or "true skills" through practical behaviour observed since ability is reflected by behaviour.

(Example: cf. "Développer la créativité". Recherches Pédagogiques, No. 65, pp. 45-48.)

The acquiring of independence and the exercise of freedom depend on the development of the ability to speak thanks to a liberating and structuring development whereby each child asserts itself as a person by developing its powers to invent, create or make a decision. We fully agree with Pierre Bourdieu when he says: "Prepare the emancipation of all

children by adopting unconditionally the aim of enabling as many children as possible to acquire in the shortest time possible the greatest number of abilities which make up scholastic culture at a given moment".

In our view, these abilities also enable all children to build up by their own activity mechanisms essential for developing their active relationship to the world, adapting themselves to it as well as renewing and creating.

IV. LIST AND DESCRIPTION OF ACTIVITIES WHICH MAKE UP LANGUAGE PROGRAMMES

Research 1

Title: Rooting of verbal production in action language

Objectives and main hypothesis

Development of a child's speaking abilities from the aspect of:

- action language;
- deferred language;
- anticipation language.

Instituting production workshops (manual or musical) where young children can work freely with various kinds of material helps to develop their speaking ability in:

- action language;
- deferred language;
- anticipation language.

Research stages

A. Instituting transforming workshops.

Study of space and time conditions.

Accessibility of workshops (1973).

Study of the functioning of workshops.

B. Analysis of the children-adults relationships within the workshops.

Study of the effects of the instructions (modulations) and of the kinds of intervention observed (1973-74).

Analysis of the relationships among the children.

Study of the phenomena governing the introduction of standards (1973-74).

Analysis of the children's attitudes to the materials:

- choice of materials;
- relationship between the topics and materials chosen and the children's operations (1973-74).

Analysis of the objects produced and of drawings of the objects.

C. Analysis of verbal productions from the aspect of:

- action language;
- deferred language;
- anticipation language.

Semantic study of the explicit interpretations and syntactic study of the verbal productions (1973-1974-1975).

D. Can the regulating of the imaginary activity of children through the handling and transforming of materials be objectified?

Research into indications (1973-1974-1975-1976).

First results

- Drawing of graphs enabling the functioning of the workshops to be objectified.
- Establishing of observation guides enabling the relationships within the workshops to be objectified.
- First analyses of objects produced from the aspect of creativity.
- Compiling of a card index classifying these objects (photographs and codified descriptions).
- Partial processing of the initial results by computer.

Research 2

Title: Communication networks and structures

Research into the setting up of small speech networks promoting verbal communication between children. Instrumental check on the development of verbal communication behaviour. Maximum objectifying of positive strategies.

Objectives and main hypothesis

- Enable every child rapidly to acquire the status of "speaking subject".
- Awaken or strengthen in all children jointly the "desire to communicate" and foster pleasure in speaking.
- Confirm, improve and develop the communication "structures" by the rational arranging and modulating of speech networks.

It is possible to improve the level and structures of verbal communication by arranging and modulating speech networks ("networks" and "structures" are defined in an operational sense).

Research stages

A. Observation of the functioning of "affinity networks" formed freely by the children.

Observation of the children in diversified intercommunication situations - constitution of positive speech networks.

Devising a method for observing children in intercommunication networks.

Preparation of a coded analysis diagram enabling the intercommunication relationships within a network to be inventoried quantitatively and qualitatively (analysis of communication structures).

Processing of data.

Interpreting results.

B. Concurrently, detailed description of new educational procedures and strategy geared to the objectives (rational modulation of networks).

Reducing this description to its "salient features" or features which distinguish it from the procedures customarily introduced into infant school classes.

Refining and remodelling of the solution hypotheses. The independent variables are determined at the level of education procedures, the dependent variables at that of behaviour observed.

C. Use of the "diagram" and the processing of the data gathered in October, March and June of the school year, make it possible to assess the main hypothesis and the effectiveness of the education strategy applied.

Results

The processing of the data gathered over the past two years enables a favourable opinion to be formed of the system from the standpoint of:

- the quantitative evaluation of the statements made by children in speech and communication networks;
- the quantitative and qualitative evaluation of the intentionality and effectiveness of the exchanges;
- assessing the development of child behaviour: quality of listening, coherence of speech, fostering the pleasure of communicating and speaking.

(cf. Research report in No. 65 of Recherches Pédagogiques. cf. RTS films: Atelier de Pédagogie: Réseaux de communication 1, Réseaux de communication 2.)

Matters pending

- Devising an observation guide for the application of educational methods in the experimental area (1974).
- Application of this guide to a a control area and processing of the data gathered in this second area (1975).
- Extending the operations to six experimental and six control areas in the Greater Paris Area (1975).
- Processing the data gathered and interpreting the results (1976).
- Publishing the results and description of the education strategies applied to the experimental areas, if these results show that the strategies are a positive "innovation" for the attainment of specified objectives (1976).

Future developments

Training of teams of women schoolteachers in these new education strategies and in the dynamics of the research they imply.

Study of the possibility of extending and developing these strategies, if deemed desirable.

Research 3

Title: Introduction of a phonological language system in conjunction with the operation of syntactical schemes

Objectives and main hypotheses

- Promote the introduction of the phonological system, i.e. the progressive mastery of the contrasts necessary to the functioning of language (minimum system).
- Promote children's ability to understand and to make up messages in a communication situation.
- The use in play situations of "minimum pairs" in speech or motivated communication
  - facilitates the introduction of the phonological system;
  - helps children to use effectively the sound components of statements;
  - strengthens their language reflexes;
  - promotes auditory discrimination of the sound components of statements (segmenting of statements).

Research stages

A. Observing, analysing and interpreting, from the phonological aspect, of children's difficulties in understanding and making verbal statements

Investigation, in the family environment, of the parents' phonological system.

Teachers' knowledge of the experimental fields of the phonological system necessary and adequate for verbal communication.

Devising an instrument for determining each child's individual phonological system. (Survey of the phonic distinctions and contrasts perceived and made by everyone - vocalic system, consonantic system.)

B. Concurrently:

- Devising an education strategy based on the verbal activity in play situations of young children;
- Description of the salient features of this strategy - endeavour to rationalize and systematize teaching measures.

Results

Processing of the data gathered by means of a survey made in October and May of the school year 1972-73 among a small sample group (30 children aged 4-5 years; 30 children aged 5-6 years) enables a favourable opinion to be formed of the system from the standpoint of:

- the quantitative evaluation of "minimum pairs" mastered during the time elapsed (eight months);
- the quantitative and qualitative evaluation of the statements made by children and of their understanding of statements heard in an intercommunication situation;
- the appraisal of children's attitudes: willingness to listen, quality of listening and of achievement; pleasure in using language and in communicating.

(cf. Report. Recherches Pédagogiques, No. 65.)

Questions pending

- Extension and development at third year nursery schooling and first year elementary schooling levels.
- Extending the experimentation to three areas in Choisy-le-Roi.
- Seeking three control areas.
- Analysing the data gathered and interpreting of the results obtained in the six areas.
- Publishing the results and formally describing the new education strategy, if it proves positive from the standpoint of the objectives aimed at.

Research 4

Title: Active use of syntactical language

Objectives and main hypotheses

- Devise machinery promoting at pre-school level diversity of language productions in direct relation with specific communication needs arising from differing "situations".
- Devise procedures for gathering data which will give the maximum indications for study and analysis.
- Devise analysis procedures enabling the maximum indications to be derived from the minimum material (identifying variables which can be determined and measured)
- Define procedures for interpreting indications showing the appropriate criteria for evaluating the degree of mastery of the oral language (instrument of communication and speech) of all sample group pupils.
- Devise education strategies most likely to develop the syntactical function from the angle of the pupil's ability to "adapt" language statements to the circumstances and situations in which they are made.

Research stages

A. Collecting children's productions.

Devising an instrument for visualizing the statements produced from the syntactical angle and evaluating the complexity and diversity of statements in children's speech.

B. Concurrently: Devising education strategies to meet the objective aimed at. Describing these procedures and rationalizing of the measures.

Research 5

Title: Preliminary learning to read by means of the ALFONIC ("alphabet phonologique") system

Analysing of the many effects of the innovation introduced.

Objectives and main hypotheses

- The use of the ALFONIC alphabet permits preliminary learning to read at an early age, detached from spelling problems and based on a child's ability to establish a bi-univocal correspondence between the phonological system it uses and a graphic system.
- The ALFONIC system enables a child to express itself freely in writing and to learn progressively to spell.

Research stages

- Studying children's phonological systems on the basis of studies and research carried out under Simone Perron in the Choisy-le-Roi experimental area.
- Putting into final form by Maryse Renard and Robert Vion for teachers carrying out experiments a report produced by the applied phonology laboratory in November 1973.
- Producing an experimental education aid of 50 index cards by a team comprising linguists and practising teachers (A. & J. Martinet, Maryse Renard, Robert Vion, Monique Ducet, Suzy Defalco) August 1974.

Results

- Trying out the ALFONIC system in 1973-74 by Monique Ducet in the senior nursery school class in Villeneuve-le-Roi.
- Extending the above-mentioned experiments to the first year of elementary school classes in Villeneuve-le-Roi (1974-75).
- Instituting of a parallel experiment under the direction of Suzy Defalco at the Fuveau nursery school (1974-75).
- Elaboration of control instruments in conjunction with the experiments (1973-1974-1975-1976).
- Study in depth of the transition from ALFONIC to traditional spelling (1975-76).

Research 6

Title: Educational manual work: analysing productions from the creativity aspect (subsequently from the verbal aspect)

General objective

To determine which situations and materials promote an abundant and diversified production of objects.

Working hypothesis

In the context of the general objective, the punctual objective will be circumscribed during an initial phase according to the production of objects in quantity and the following working hypothesis will be adopted:

An appropriate choice of topics and materials does or does not favour production of objects in quantity.

Preparatory work and planning

- Research into topics and materials: various uses and manners of classification possible (1973-74).
- Devising a systematic observation plan (1974-75).

- Analysing productions (1975-76); revising of punctual hypothesis and enlargement towards the general objective defined above.

Extension

Devising educational situations pertinent to creative production in the field of manual activities.

Research 7

Title: Analysing oral production: the structure of the account (subsequently the language of the account)

Objectives and main hypotheses

After laying down an operational definition of what is and what is not an "account", the objective is to show situations which promote oral production of "accounts".

Working hypothesis

After laying down a framework for the experimentation whose characteristics are:

- the oral production of the account is individual,
- the addressee is the adult,
- production is not accompanied by handling of objects - the following hypothesis will be formulated:

material, verbal, iconic and event-linked stimuli promote in varying ways the production of either opening or closing accounts.

Preparatory work

- Choosing and preparing stimuli
- Setting up the experimental machinery,
- First collection of analysed data for determining the accuracy of the operational definition of the account.

Planning and experimentation

- In 1974-75, collecting accounts and analysing productions in the context defined.
- Subsequently, a detailed study varying the stimuli and each of the three parameters defined, i.e. progress from individual production to collective production for a non-adult addressee (the class group, for example), production of an account with manipulation, etc.

Extension of the research

Apart from the developments described above which are based on variations of the initial hypothesis, it will prove necessary to progress from study of the structure of the account to analysis of the language of the account. From 1976 onwards this analysis should form the subject of a supplementary research sheet.

Research 8

Title: Analysing the syntax in an account situation. Studying affirmative, negative and interrogatory forms used in connection with modal verbs by the children

Objective and main hypothesis

Analysing children's productions from the aspect of affirmative, negative and interrogative forms used in connection with modal verbs.

Develop children's verbal communication abilities in independent situations (ability to assert, question, reject, discuss, contradict).

Research stages

A. Collecting and analysing the corpus. Creating an instrument for visualizing children's syntax.

Range of educational situations on the basis of the results of the analysis.

B. Survey of educational situations favourable to the production of affirmative, negative and interrogatory statements.

Analysing children's productions in these new situations (1976).

Research 9

Title: Observing the behaviour of young children when confronted with the written language

Objective

Enable children to learn incidentally how to read.

Main hypothesis

In a natural communication situation, the learning of the written language is isomorphic to the learning of the oral language, and therefore not dependent on a phonetic-grammatical correspondence.

Preparatory work and planning

1974-75: preliminary observation of children's behaviour.

Subsequently, development on the basis of the analysis of the initial observations.

V. DEVISING OF INSTRUMENTS

Checking or control

Ideally, control should bear directly on the link between an objectified strategy and the objective aimed at. In practice, however, we only determine whether, and to what extent, the objective has been attained, without ever being able to ascertain whether it might not have been attained by a wholly different means.

If one also takes into account the multiplicity of observable aspects and the whole network of hypotheses, it should be possible to carry out a systems analysis in full or in part as regards the objectives.

If all punctual hypotheses are subjected to experimental control and the results of the control are satisfactory, we may fairly reliably conclude:

- that a number of our test pupils have mastered oral language;
- that all educational situations created with a view to attaining each of the punctual objectives form a coherent education system. In this way it would be possible to establish a link between a punctual experiment and necessarily continuous pedagogic action.

Evaluation and instruments

The research teams were made conversant with the work of establishing evaluation guides and instruments for each of the specific actions. This work made it possible retroactively

- progressively to adjust the objectives;
- progressively to adjust the education action and innovation.

An important aspect of the effects of innovation is that teachers can fully objectify their action. We consider that their training must take account of this need and of the ability to devise the tools for such objectification as members of interdisciplinary teams.

Types of instrument devised by teams

1. Analysis diagram of children's productions in speech networks.

1.1 Objective: Development of verbal communication ability.

1.2 Collection of data

- The research was concerned with groups of six children aged from five to six years in the classroom situation. The verbal productions were recorded on magnetic tape and carefully transcribed. They constitute the corpus, the authentic and complete language of each pupil.
- A team of observers (team members) was appointed (one for two children). They noted briefly in writing one or more words spoken by the children they were called upon to observe so as to have points of reference when listening to the playback of the tape and be able clearly to distinguish the speakers when analysing the recording.
- The analysis of the corpus showed in the initial phase productions derived from the discussion or subject proposed to the group.
- Each verbal statement was numbered in the transcript.

1.3 Transfer to a diagram

The corpus covers a period of time and takes a form which is difficult to analyse in respect of exchanges. We have therefore dealt with it in the form of diagrams which take no account of semantic and linguistic content, make linearity of corpus unnecessary and plainly reveal the reactions of the participants.

A study of the verbal statements enabled us to make a quantitative and qualitative survey of the communications which took place. They included statements by adults, children's answers to adults, children's statements to adults which were not answers, statements between children through an adult intermediary present among the group. A child addresses an adult indirectly; it answers in fact the child which made the previous statement since its answer takes account of that statement. Lastly, there are statements made by one child to another with no adult intervening.

1.4 Method of processing data

Recapitulatory tables were compiled in which we distinguished successively:

- the number and distribution of addressees of verbal statements
- the quality of verbal statements

. statements, whether derived or not;

. in both cases, classification of statements according to the criteria laid down by our code;

. total number of different statements.

- Ratio of statements made

Ratio between the total number of verbal statements made by each speaker and the total number of verbal statements made by all speakers.

1.5 Results: They cover three observation sessions spread out over a year - December, March, May. The situations were homologous.

- Total number of statements (whether increasing or not).
- Ratio between the total number of statements made by the teacher and the total number of statements made by the children.

- Number of soliloquies in the three situations.
- Number of verbal statements made by each of the children and comparison.
- Number of derived statements.
- Number of statements addressed by a child to an adult.
- Number of statements addressed by a child to another child.
- Listening and answering - exchanges.

1.6 Interpreting the results

- Quantitative appraisal
- Qualitative appraisal
  . individual initiative
  . independent behaviour
  . development of the quality of listening
  . meaning of periods of silence
  . coherence of statements
  . style of conduct.

This research was carried out with the support of Janine Beaudichon, Laboratoire de Psychologie génétique, Paris V.

2. Compiling of a phonological questionnaire

2.1 Objectives:

- To ascertain the children's phonological system.
- To determine which types of contrast meet the criteria of definition of a minimum system (for a given age group).
- To measure the development of and the knowledge acquired by each child over a given period.
- To devise a manageable tool facilitating evaluation.

Effective language communication calls for mastery of a number of phonological contrasts. From our standpoint, it is a question of enabling a child, whatever its socio-cultural or geographical origin, to discover the nature of the French phonological system through the many examples presented to it: that of the father, of the mother, of the school, etc.

We do not aim at a maximum system with all its subtleties, but at a minimum system which is adequate for communication and can be used by everyone. A maximum system would comprise all the distinctions noted among speakers observed. A minimum system would be derived from a comparison of individual systems and would retain only contrasts common to all, i.e. those essential for communication.

2.2 Criteria in respect of phonological construction

The questionnaire is based on the consonantal system. The contrasts adopted were chosen in the light of their functional use in the contemporary French language system as analysed by André Martinet.

We did not pay special attention to mastery of the vocalic system. However, this system is reproduced almost wholly in our instrument, particularly where the contrast between oral vowels and nasal vowels is concerned.

The list of words making up the test comprises only 35 words, since one and the same word can be used for several contrasts.

2.3 Criteria in respect of the age of the children undergoing the test

The words included in the questionnaire were chosen according to two criteria:

- existence in the vocabulary used by very young children (all groups aged from two to six years);
- the possibility of pictorial representation or preferably of actually presenting the object to be named.

2.4 Why a description test?

We chose a description test rather than a repetition test so as not to have a picture of what the child is capable of reproducing but of what it is, in fact, capable of producing.

2.5 Testing

Each test is individual. Each word is represented by a picture or, preferably, by an object which is shown to the child who is asked to say what it is; it is asked "What is it?" The child's answer is marked (+) if it is phonetically accurate, transcribed phonetically if it is not.

To have an accurate record of what the child produces, it is necessary to record its answers on magnetic tape and to mark it on the basis of the recording. When carrying out tests, we realize that a person who listened to a child's answers often marked what he ought to have heard rather than what he did, in fact, hear.

It therefore seemed to us necessary to use a taperecorder when administering the questionnaire; this makes the procedure cumbersome but ensures that it is effective.

2.6 Use of results

- On the basis of individual results, identification of the contrasts not mastered by all the children of the group.
- Classifying of contrasts not mastered.

It is in the light of these contrasts which the children have not mastered and on the basis of the play system that the educational strategy will be built up. (cf. Recherches Pédagogiques, No. 65, pp. 145-163.)

This research is directed by Jeanne Martinet, lecturer at the Ecole Pratique des Hautes Etudes - 4ème section - Paris, in collaboration with Marie-Christine Droin, psychologist and speech therapist, and nursery school specialists in Choisy-le-Roi.

3. Devising an instrument for explaining syntax visually

3.1 Objectives:

- Exhaustive syntactical analysis with a view to showing in the corpus gathered:
  . classes of monemes used,
  . syntactical functions expressed,
  . the complexity and diversity of sentences produced (in functional linguistics a sentence is defined as "a series of words made up of a predicate and the expansions connected with it")
- Observing the diversity of language productions in relation to the specific communication needs arising from all the factors of the "situation" (in the broadest sense) in which the communication takes place.

3.2 Statistical data derived from the syntactical analysis of a child's account recorded on tape and transcribed according to the ALFONIC system. When classified within a complex table, they show clearly:

- the number of sentences produced within a given period of time;

- the categories of monemes used;
- the syntactical functions expressed.

We thus have an instrument enabling us to evaluate the complexity and diversity of sentences produced by the children when giving accounts or in any other situation. (Director: Jeanne Martinet.)

In the context of this study, we have presented three examples of instruments devised by our teams on an inter-disciplinary basis in an attempt to evaluate the degree of mastery of oral language of any member of our sample group of children. Each of these instruments was constructed on the basis of a precise objective and a working hypothesis. This difficulty in co-ordinating objective, strategies and evaluation is characteristic of all the research upon which we have entered. We have laid stress on this dynamic and progressive aspect of the process and have at the same time endeavoured to explain the intentions which underlay the devising of the instruments, the way in which these function and the kind of data they enable us to assemble in the light of the objectives aimed at. As regards our language programmes, we decided not to use or amend existing tests.

Concurrently, we refined the new education strategies in the field and are trying to compile a survey of these strategies and to emphasize the relationships maintained between them with a view to building them up into an open and coherent reform system.

We do not underestimate the difficulties or limitations of such an enterprise. To the extent to which each of our working hypotheses is tried out experimentally and our instruments enable us to achieve results which can be interpreted favourably, we hope to be able to establish whether or not every pupil in our sample group is mastering oral language effectively. Since all our hypotheses make up an open system or "implicit innovation hypothesis", we cannot claim that all the new strategies we have tried out in practice and whose secondary effects we are trying to evaluate, represent the sole and best solution to the problems we have raised. Other strategies too may provide positive solutions. This is another research dimension. All we are entitled to do is to assert that we have attained our objectives in the case of so and so many children of our sample group and to interpret the results with a view to assessing the level reached by each of them.

Lastly, in this study we have dealt only with activities concerned with mastery of the language considered in its oral aspect. Action aimed at promoting access to the written aspect of the language and to the first "reading-writing" lessons has its roots in this first system of hypotheses to which we have limited our report.

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EVALUATING LEARNING DIFFICULTIES IN EARLY CHILDHOOD EDUCATIONAL SYSTEMS

Isto Ruoppila

The problems of evaluation are always connected with and can be solved only in relation to the goals which are set for early education. The educational goals can be described either in terms of the behavioural level of a child or group of children or of the situational and material requirements which the teacher has to arrange for the children so that they can benefit from experiences which are planned for them. In practice both kinds of educational goal description are needed.

Evaluation problems are also related to the curriculum or to the various curricula which are planned to promote the achievement of general educational goals. Furthermore, it is necessary to relate the problems of evaluation to the practical implementation of curricula ; and in this respect the pedagogical and didactical knowledge and skills of teachers have to be taken into account as important variables. Lastly, the problems of measuring the behaviour of pre-school aged children and the problems of measuring the educational environment have to be solved before it is possible to get reliable and valid knowledge for evaluational purposes (Bloom, 1964; Campbell & Fiske, 1959).

Because the goals set for early education differ, and thus very often the curricula too, the implementation of curricula (or the working methods of teachers) and the evaluation measures differ. This makes it difficult to compare studies with differing starting points.

The early educational programmes for children aged 0 to 3 years differ in their theoretical bases. A first group of programmes is based on the developmental stage theory of Piaget (Dusewicz, 1971; Fowler, 1969, 1972; Gordon, 1967; Kamii, 1971; Kohlberg, 1968; Robinson & Robinson, 1971; Weikart, 1969). These programmes or curricula emphasize that the programme and the developmental level of children have to be matched. The problems involved in matching (Hunt, 1969), including the identification of the developmental level, are still unsolved, and surely difficult or perhaps theoretically impossible to solve. Here we refer to the theoretical and empirical evidence concerning the cognitive-developmental stage hypothesis. There are arguments both for this hypothesis (e.g. Strauss, 1972) and quite strong criticism of it (e.g. Brainerd, 1973; Flavell, 1971). It has to be added that attempts have been made to develop diagnostic methods for describing the developmental level of children for matching purposes. For instance, Fowler (1972) mentions a method called "diagnostic developmental monitoring" for teachers' use, and adds that this method should describe the learning profile of each child. Also Uzgiris and Hunt (1966) have developed elaborate methods for measuring the developmental level of children under 18 months of age. In addition to the above-mentioned methods, Liikanen (1972) has tried to develop a new measure for describing the developmental stage of a child and has produced programmes which have been planned to be especially suitable and beneficial for children at a given developmental stage (Liikanen, 1975).

A second group of curricula has its basis in learning theory (Bereiter & Engelmann, 1966; Gewirtz, 1968 a, b; Meier, 1970; Ulrich et al., 1971). These programmes describe the goals of early childhood education in terms of the behaviour of individual children, but not, it should be noted, in terms of the behaviour of a group of children. Generally the goals are quite specific in these programmes, applying the various modifications of a general learning theory.

A third, in fact small, group is composed of programmes in which development is defined mainly in maturational terms (Furman & Katan, 1969; Grunelius, 1966). It has to be pointed out that there would appear to be contradiction and incompatibility between the basis of these programmes and the idea of furthering the development of children.

A fourth group consists of curricula based on the dialectic-materialistic conception of the developmental process (Chauncey, 1969; Elkonin, 1969; Schmidt-Kolmer, 1972). The goals set for the early educational system are in these programmes clearly described, and the curricula are planned in great detail including specific instructions to the teacher on how to implement the curricula. These curricula attempt to promote the all round development of children.

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As a consequence of the differing goals and theoretical bases of the early educational curricula, the development of children has been variously evaluated in studies concerning the effects

of programmes. In most studies the evaluation has been limited to specific variables describing the behaviour of the child as an individual, on the other hand the behaviour of groups of children is generally neglected. This remark holds true even for those studies which claim to attempt to further a much broader development of children than that which is actually evaluated. The reasons for this kind of narrow evaluation, which does not fit well with the declared goals of the curriculum, are not generally expressed, and they cannot be very convincing. This practice has to be changed so that better research can be undertaken.

The independent variable, the programme or curriculum, is often so generally described that it is difficult for a teacher to know what the curriculum planner has had in mind and how the programme is to be implemented. Because the teacher is an important factor in studies planned to elucidate the effects of a programme, it is vital to know what has happened in everyday practice. Both the often general nature of the programme and the different ways in which teachers put the programme into practice are aspects which make clear why it is difficult to say which factors explain the greatest part of the variance in the effects of the programme. Only programmes with narrow and specific goals and with a very strict structure are simple enough to be used as independent variables, although their practical value may be limited to specific children needing that kind of activity. In practice a serious disadvantage has been that the actual level of development of children serving as subjects has not been the explicit starting point of the programme. Furthermore, the complete background of the children and their families is often not taken into account.

Generally, the evaluation of the effects of a programme has been based, especially as regards children in the 0-2 age-group, on a few, but well-known, developmental measures which describe in global terms the developmental level of a child. However it may be that the test items do not cover all the important aspects of the developmental process. In my view we need more knowledge about the various aspects of the developmental process so that better measuring instruments can be devised. It is most urgent to discover methods of describing both the interaction between adult and child and between an adult and a group of children, if the developmental process theory considers that a child's development is based on the interaction between himself and the milieu in which he grows up. Perhaps not all the important factors in this interactional process have yet been found out.

At the Department of Psychology of the University of Jyväskylä such a measure for describing the developmental process and the interaction between child and adult is under construction. It will cover the age-group six months to four years. Construction began with a content analysis of those measures of the developmental process which we knew, and then the results were compared with what is known of child development. The items were selected so as to cover all important aspects of the developmental process. The research work of the following was especially useful during the item selection phase of the construction process: Bayley, 1969; Elonen et al., 1963; Franz, 1972; Frankenburg & Dodds, 1968; Pikler, 1972 a, b; Schmidt-Kolmer, 1972; Stutsman, 1931; Uzgiris & Hunt, 1966. Knowledge based on research concerning acquisition of the Finnish language (Päivinen, 1972; Ruoppila, 1972) was also used in the construction process. Because the intention is to construct a measure which can be used by the personnel in early educational settings the items have been selected so as to be sufficiently comprehensive, but covering that behaviour which the personnel can easily observe or measure during daily interaction with children. In this respect the content of items is closely connected with the everyday work in early educational settings. It is, hoped, too, that this measure for evaluating children's development will guide practice in early educational settings so that the overall development of children will be systematically promoted. This approach requires that the measure be truly comprehensive.

In addition to the measures describing the developmental process of a child and the interaction between child and adult and between children, sophisticated measures are needed for describing the milieu in which children grow up. Research has found important relationships between a child's upbringing, including material and psychological stimulation, and his development, including later learning motivation and school achievement (e.g. Bloom, 1964; Hunt, 1969). But this kind of research has not yet been analytical enough.

The early diagnosis of learning readiness, of central basic knowledge and skills is important in order to develop methods to prevent later possible learning difficulties or remedy possible

learning deficiences. This kind of diagnosis has to be based on the acquisition of basic knowledge and skills and on the way this is related to the programme and teaching methods used. The learning conditions are related to the educational goals and teaching methods, although there is not much information available concerning the possible interaction between the teaching methods and the child's development either in relation to the developmental level of the child or in relation to the different aspects of the developmental process. Practice, however, is very often based on the hypothesis that there exists a definite interaction between teaching methods and one or more variables describing the child's developmental level. The attempt to match curriculum and teaching methods to the developmental level of children is also based on the above-mentioned hypothesis concerning the significant interaction between teaching and child development. This kind of hypothesis has to be thoroughly studied before it can be considered reliable and valid for everyday practice in early education (Cronbach & Gleser, 1965).

If the early diagnosis system is to cover comprehensively the developmental process, it has also to fulfil the following requirements:

- It has to be related to the curriculum and to the teaching methods, the timing of different learning experiences being especially important.
- It has to be directed towards those preconditions for learning, on which the early childhood education can have at least some effect.
- It has to be adapted to everyday teaching practice so that the teachers can use as much as possible the experiences and the information they acquire daily when interacting with children.

As an example of a study where diagnosis and treatment were inter-related we refer to a research concerning factors which affect acquisition of the mother tongue. The research results (Ruoppila, 1973) show that orientation, activity of sensory registers, especially of the auditive register, and short-term memory (STM) capacity explain both the mastery of grammatical rules before the programme and also how much a child learns during a special programme purporting to further the mastery of grammatical rules. Because some children have a limited STM capacity a special programme using short but complete sentences was constructed for them. In one experiment (2 x 2 analysis of variance design, STM capacity and programmes using short vs. long sentences as independent variables, and the comprehension and production of grammatical rules in Finnish and a Hungarian vocabulary test as dependent variables) the results showed immediately and six months after the programme a significant interaction between the STM and the programme. The STM (-) group with which short sentences were used gained more than the STM (-) group with which long sentences were used. Whereas the STM (+) group benefited more than the STM (-) group from the short sentence programme, it benefited more markedly from the long sentence programme. The results described above refer to the variables measuring the mastery of grammatical rules in Finnish, but it is important to note that the groups did not differ in the learning of the Hungarian vocabulary. The STM is not a limiting factor in learning vocabulary (Atkinson & Shiffrin, 1971), at least not to the same extent as when a child is processing a long sentence in a language like Finnish with its inflectional system, its suffix strings and many rules concerning the relationships between suffixes within a sentence.

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THE CHANGING ROLE OF THE EVALUATOR

Emil Schmalohr

Educational reform and curriculum revision have led to the development of a variety of evaluation techniques and resulted in a great many functions and tasks for the evaluator. The evaluator's role takes many different forms, which have not yet been precisely defined and classified. The following is a preliminary attempt to do this, based on the situation with regard to pre-school projects in the Federal Republic of Germany (cf. national report in this publication).

"Evaluator" is taken here (in the narrower sense) to mean a scientific investigator (psychologist, educationist, sociologist, etc.) who, through his research findings, assists decision-makers in the assessment and improvement (evaluation) of learning schemes (curricula). As a result of new curriculum evaluation strategies, changes have occurred in the evaluator's role in the development, introduction and dissemination of curricula. The main reason for these changes is the new emphasis on social aspects of education, bringing about a process of democratisation which:

- is intended to secure greater openness in decision-making processes and scientific research;
- entails greater participation by those directly and indirectly concerned (parents, teachers, pupils and administrators) in the development and dissemination of curricula;
- leads to closer involvement of those concerned in the choice of evaluation strategies, which are usually no longer worked out by a single researcher but by a team of researchers, together with outside advisers and the research commissioners.

Mention should also be made in this context of the tendency in curriculum development not only to construct "closed" curricula, planned by outside researchers, but also to devise "open" curricula, in the planning and improvement of which the teachers themselves are more closely involved than in the past; in this case, the evaluation is done not by outsiders but by those actually concerned with the development and application of the curricula (internal evaluation).

In these changing circumstances, evaluation functions which were previously the province of scientists are performed by teachers, parents (sometimes even pupils) and educational administrators. These are "evaluators in the broader sense", and the "role of the evaluator" ought really to be considered with them also in mind. However, the field would then become so complicated as to go beyond the scope of this paper, and so we shall confine ourselves - as already stated - to the role of the scientist-evaluator, whose functions and approach to his own role have been radically altered by recent developments.

In his evaluative activity, the scientist is being drawn more than ever into the area of conflict between, on the one hand, the attempts of various groups controlling curriculum planning to determine educational policy and, on the other, practical educational work. He cannot meet the changing requirements and expectations of research commissioners and educational practitioners unless he has a flexible approach to his own role. But as he is bound by the principles of scientific research, he may become embroiled in role conflicts which threaten his professional integrity.

This paper discusses a number of aspects of the problem arising out of changes which have occurred in the evaluator's role in recent years:

- in separate projects of different kinds (1-6), and
- within single projects, owing to changing conditions and requirements in the course of execution (7).

Subjective accounts can generally only suggest lines of enquiry and are certainly incapable of providing solutions. Nevertheless, an attempt will be made to define the extent of the problem in the form of propositions and by singling out the advantages and dangers inherent in the evaluator's various roles. The various suggestions made for improvements are intended to help diminish conflicts and contribute to their being conducted fairly by drawing attention to the roles of the parties concerned.

1. In educational research, it is no longer possible to be a "pure" researcher (psychologist, educationist, sociologist, etc.); the educational researcher has become an "evaluator", who has to weigh up and interpret the results of his investigations in terms of their social implications and consequences for educational policy.

2. Methods of evaluation have been developed from traditional achievement measurement and psychological impact research, both of which are concerned with individual differences and changes in the learner and the effects of learning processes.

In his role as a measurer of achievement, the evaluator tests and engages as an experimenter in "external" evaluation, by describing behavioural changes during learning processes, interpreting them and making suggestions for practical improvements.

3. Nowadays, evalution is not confined to describing and interpreting behavioural changes in the learner; above all, it endeavours, by means of control over the learning processes, to reveal faults and opportunities for improvement in learning projects. This entails (a) assessing behavioural changes in the learner, and (b) making assessments designed to assist decisions as to how curricula can be improved.

As an assessor, the evaluator has learning control functions, which concern behavioural changes in the learner, as well as changes in the planning and organization of learning.

Advantage:

According to a proper understanding of his role, the evaluator is regarded as a helper in improving learning in practice.

Danger:

The evaluator may easily, through his control function, come into conflict with the practitioner over the suitability and effectiveness of planning, objectives and content. He may in certain circumstances be regarded as a troublesome critic or even as an enemy, if he tries to correct decisions or programmes.

Suggestions:

Greater understanding of the role of evaluation and the evaluator must be promoted. This can be done, for example, by entrusting practitioners with these matters.

Evaluation should be concerned with the quality and improvement of materials and not personally with the teachers who use them.

4. In concomitant research projects, evaluation is carried out in research commissioned by the ministries for the purpose of solving problems of educational policy, e.g. whether five-year-olds are better off in preparatory classes attached to the elementary school or in kindergartens.

In commissioned research, the evaluator can no longer merely describe or pass judgement; he has to make an assessment which helps the commissioning authority reach its decision - which draws him into the area of social and political controversy.

Advantages:

Practice-orientated, effective field research aimed at improving learning and the educational system is made possible.

Political considerations give rise to generous financial backing for research, which may also benefit the evaluator's career.

Dangers:

The evaluator realises the social and political implications too late, is not sufficiently aware of them, or tries to ignore them in the interests of "pure" research.

The evaluator is placed under pressure by the urgency of political decisions.

As political factors change problems of educational policy which have less scientific foundation rapidly lose their relevance.

Politicians expect more from research than the limited scope of empirical research can provide.

In extreme cases, evaluation may simply be used to further particular political ends.

Suggestions:

Political considerations and expectations related to the project, together with possible results of the investigations, must be clarified at the initial planning stage and continually discussed further between the commissioning authority and the researchers.

Concomitant research projects should be given institutional security, so that, for example, "critical" projects cannot be manipulated by the commissioning authority (e.g. by withdrawing finance).

Financial planning and constant cost-benefit analyses during the execution of the project must be agreed between the commissioning authority and the researchers.

5. In order to speed up reform, the planning of many projects is constantly adapted in the light of developments (action research approach).

As an action researcher, the evaluator must constantly assess the results of educational processes and take practical advantage of them to improve the planning of subsequent parts of the programme.

Advantage:

The close connection between assessment and planning leads to rapid alterations in reform projects and to close co-operation between researchers, planners and practitioners.

Dangers:

For the evaluator, who at the same time criticises results and is supposed to participate in planning, it is difficult to make a detached judgement of overall progress and there is a risk of overinvolvement in practical problems.

If improvements are made continuously, it is difficult to establish the impact of the different variables when assessing the overall effect.

Suggestions:

Separation of formative evaluation and summative evaluation is desirable, either through division of responsibilities within the evaluation team, or through recourse to separate teams or at least through the introduction of a time-lag between the two kinds of evaluation (action-cum-research approach).

Liaison with practitioners should be entrusted to separate teams of advisers.

6. In order to avoid curriculum development which is divorced from practice, many projects entail "internal" evaluation, in which not only planning but also development, implementation and dissemination of the curriculum are combined with summative evaluation. Curriculum development is carried out jointly by a team of researchers and practitioners.

The researcher as "internal" evaluator has at the same time to plan, develop, implement, evaluate and disseminate. He needs to control communication processes between researchers, developers and practitioners to take account of mutual "professionalisation".

Advantage:

Conflicts between practitioners, developers and assessors are largely eliminated through identification with a common cause.

Dangers:

With such a multiplicity of functions, the evaluator becomes embroiled in inextricable conflicts of roles. He is not capable of planning, developing and at the same time impartially criticising and improving what he has himself developed.

Because of the complex combination of social, political, pedagogical, methodological and other factors involved, the various evaluation procedures may give rise to conflict between scientific, social and political principles.

Exclusively internal evaluation can easily lead to opposition against any external evaluation and degenerate into mere "self-evaluation".

Unwelcome criticism is suppressed or ignored; possible improvements are precluded by a lack of detached judgement on the part of those involved.

Once external evaluation and "hard" criteria are rejected, comparative evaluation becomes impossible and contact with other developments is lost.

Suggestions:

Separation of evaluation of planning, development, results and dissemination; concentration on the essence of evaluation (cf. (3) above).

Professionalisation of various key elements in evaluation.

At least have products assessed by independent evaluators who do not know the developers.

Establish links between internal and external evaluation criteria in order to permit comparative evaluation and make the curriculum accessible to others.

7. The evaluators are allotted different roles and functions not only in different projects, but also within the same projects in the course of execution. Changing tasks and requirements arise as a result of changes in the background to the whole project and changes within the evaluation team, depending on the project's size, importance and manpower allocation, with variations in emphasis and to varying extents.

The evaluator must have a flexible attitude to his own role and be able constantly to adapt in terms of the overall project and the team to:

- changing social circumstances and objectives in parallel research and curriculum development;
- changing conditions in the teaching world as a result of changes in regard to communications;
- continuing developments in evaluation methodology;
- changing project management conditions and resources;
- changes in the evaluation team, e.g. expansion of the team or change in membership;
- changing group processes within the team, changes in the researchers' attitudes in relation to the changing conditions and requirements of evaluation.

In these and other areas there are many possibilities of conflict. Without going into detail, a number of suggestions may be made for improving the unclear and confusing situation and clarifying the role of the evaluator:

- selective promotion of fundamental research in evaluation methodology and e.g. the foundation of a research institute for the purpose;

- promotion of strategies for the "evaluation of evaluation" e.g. from the angle of cost-benefit analysis, the relative value of evaluation techniques, etc.;

- professionalization of the evaluator in his specific functions and roles with appropriate training and study courses and (project-related) opportunities for further training;

- improved co-operation and co-ordination between projects at national and international level.

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EVALUATION OF ACTION RESEARCH

Anne-Marie Thirion

The wide range of different types of programme, often controversial, shows that the relationship between action and research is not always one of peaceful co-existence. Sometimes theoretical (or political) options force the investigator into adopting a radical approach and impede the practitioner. Sometimes research and social action are confused; evaluation is rejected and researchers are denied all claim to social influence. Whatever its slant, most action research gives rise to non-academic scientific practices.

"Models of change" claiming to give a picture of the facts are primarily the product of organizational psychology. Being based on the demonstration of reasonable, rational strategies (1), they can account only for planned changed. However, it is not possible to understand and evaluate action research without also taking into account the unplanned aspects.

It would probably be more productive to attempt an epistemological appraisal on the basis of action-based research and accompanying attempts at evaluation.

We must admit at the outset to an undeniable ignorance. According to Bernstein, the objectives of education systems often cannot be attained. It would first be necessary to recognize the needs of a given situation, to find the appropriate solution and then to assess whether that solution actually had produced the desired results. At present, there is no integrated body of knowledge on which to base such assessments (OECD, 1973).

So the evaluation of action research remains an unsolved problem. Apart from the present state of progress, our own ideas are conditioned by cultural heritage (there is no tradition of action research in French-speaking countries) and our own particular experience limited to the Belgian intervention projects.

For this reason it is important to specify the conditions in which action research is to be carried out. Negotiations, especially negotiations for research contracts, offer substantial opportunities for clarification.

CONDITIONS AND LIMITATIONS OF ACTION RESEARCH

"The tendency to take action orientation of a project as a pretext for a looser evaluation procedure" (K-G. Stukát, 1974) is no doubt due to the complexity of the situations involved but often also to the impossibility of living up to unrealistic forecasts. Researchers are overtaken by events and abandon their plans in resignation. It is essential to assess the limits of what is possible, because too much is always expected of action research.

The researcher ought to be involved at the various phases of a project, especially the preliminary phase at which the problems are formulated, so that a realistic contract between the various parties can be arrived at. The initial stage of negotiations between sponsors, administrative and scientific authorities should be used to define the purpose of the project and to determine the amount of time and money to be spent on it.

For instance, the time required for preliminary consultations between the parties and the construction of suitable instruments if frequently under-estimated.

Negotiations also provide an opportunity for tackling questions of fundamental importance to the researcher: What educational policy is he meant to serve ? Who serves whom ? Who knows what ? Who can do what ? Who pays whom ? What information is needed for what decision ? Who benefits ? ... What are the requirements and the (explicit and implicit) expectations of the sponsors, the administrative and scientific authorities, the researchers, teachers, parents ... children ?

The researcher is faced with problems not only of procedure, but of values; these problems increase his responsibility and demand a new professional ethic.

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(1) Such is the premise of W. G. Bennis, K. D. Benne & R. Chin (1969), who distinguish between empirico-rational, normative-re-educative and politico-administrative strategies.

It ought to be possible to adjust the initial contract in the light of actual requirements, using successive negotiations to check and clarify the limits and conditions of the projects' effectiveness and of possible co-operation between the various partners.

The Belgian projects are unlike c ers in which researchers introduce or check new models at the request of the administrative authorities (1). Admittedly, our intellectual and financial independence from the organizing authorities is guaranteed by our sponsors, but we have no means of radically changing the structure or organization of the existing pre-school institutions.

However, it is the structure (and perhaps also administrative regulations and trade union rules) that has imposed the greatest constraint. For instance, it was not possible to experiment with a 5-7 year course affording continuity between nursery school and primary school, because of the administrative problems it caused and because it did not fit in with compulsory education legislation. Conversely, it was possible to develop one of the most original projects, the mini-crèches, at a level of the pre-school system where there is still something of an institutional vacuum. The experiment was conducted in a municipality where there are innovators at work. The researcher's work was incorporated into an existing pattern.

The Belgian action research involved four university teams tackling the same problem of optimizing the development of children aged 0-7 from "disadvantaged" social backgrounds. Each team was made up of a small number of researchers, mainly educational psychologists, who devised and controlled field action with teachers and/or parents. As researchers, we have to live with the consequences of our own actions. The difficulties arising out of this degree of involvement are numerous. But apart from the risks of confusion of roles and abuse of power, we should like to emphasize the limitations due to the research project itself, its instruments and methods.

THEORY AND PRACTICE IN ACTION RESEARCH

It is significant that in French usage operations research (recherche opérationnelle) should often be used as a synonym for action research, favouring an interpretation of the latter (2) that emphasizes organization, management and economic return.

Rather than a technological solution to the study of school problems, action research is concerned with the broader issues of the relationship between theory and practice and of research in education as it is being done.

The relationship between theory and practice might be illustrated by discussion of the contribution to education of Piaget's theory. Several action programmes are based on the premise that "nothing is so practical as a good theory", with the aim of explaining developmental differences linked to socio-cultural factors, of determining the objectives of a programmes and checking its effects. C. Kamii (1974) has shown that most so-called Piaget programmes rely on an empiricist assimilation of the theory which influences teaching practice in a way which is sometimes the very opposite of Piaget's interactionist and constructivist ideas.

C. Kamii shows great scientific honesty moreover in the self-criticism of the conceptualization of objectives she proposes in B. Bloom's (1971) Handbook on Formative and Summative Evaluation, and which illustrates confusion between the child's cognitive development as seen through Piagetian tests and children's development in everyday life.

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(1) The Belgian projects are described in the Council of Europe's Information Bulletin No. 1, 1974. Only their essential features are recalled here.

(2) i.e. the interpretation current during and after the second world war. J. E. Magee defined it as the systematic application of scientific methods and techniques to the problems of managing firms, public affairs, military activities with the aim of providing a quantitative picture of the essential elements in a given operation and the factors affecting the result and so providing a sound basis for decision-making (see G. De Landsheere, 1970).

- This illustrates a general problem in the evaluation of pre-school programmes: the misuse of instruments designed for quite different purposes. In particular, in this case, the use of tests devised for checking certain theories, either as diagnostic and differential tests, or for purposes of global measurement.

- Piagetian programmes must be based on knowledge of the child's development in a real setting and determine the educational practices capable of facilitating it.

This is one of the preoccupations of the theorists themselves who, after describing the stages of development, try, by using learning methods, to reconstitute the process of transition from one stage to another in the laboratory.

It is very significant that last June in Geneva, at a seminar on compensatory pre-school education, M. Sinclair urged researchers not to expect everything from theory but to strike out in a new direction by working out theory from their own practice.

Action research, then, cannot be reduced to the mere application of techniques. It affords a means of transforming or constructing concepts which favour the perception of new factors underlying reality and make programmes more effective.

Furthermore, it must be accepted that the partners in action research, teachers and researchers in particular, each have their own theory and practice.

This helps to explain both the time needed by the researcher and the communication gap between the partners.

- We have already mentioned the decision-makers' failure to recognize the researcher's time requirements. But the researcher is often the victim of his own "scientistic" approach. "The more faltering the science, the more it tends to seek legitimacy in reliance on general methodological foundations devised without reference to the practical conditions of scientific practice (M. Castells, 1973).

- The problems of communication between researcher and teacher will not be solved by turning the researcher from an "expert" into a "consultant". All real communication is interaction. The "recognition" of a theory and practice different from one's own is only possible through co-operation. It is because it has to rely on transforming relationships between people that action research has political importance.

Another fact illustrates that action research often has to grapple with real, fundamental problems rather than nice, tidy laboratory experiments.

Not by chance have methods derived from ethology or cultural anthropology gained a new lease of life in action research. Researchers immersed in the daily life of a school, a family or a community feel the need for detachment from this complex reality, for a change of vantage point. This shift of focus may result in a different scientific practice or a critical appraisal. Such preoccupations are close to those of the fundamentalists who endeavour to establish the biological and sociological roots of behaviour. In particular, they throw fresh light on the problem of learning (often considered in a very narrow sense), replacing the idea of an isolated task by that of a behavioural repertoire and identifying the contextual determinants of observed conduct.

TRENDS IN DESCRIPTIVE EVALUATION

The immense difficulty of identifying and monitoring the many variables involved has prompted a massive revival of descriptive studies. Recording appliances (film camera, tape-recorder, video-recorder, ...), often used where funds permit, make it easier to collect information but not to process it. Accordingly, it is not rare for action research to accumulate a mass of unprocessed or unprocessable data. According to M. Reuchlin (1971), genuine "psychological ecology" requires a scale enabling the environment to be described in terms of dimensions the relevance of which a theory has demonstrated.

For the purpose of objectivity, behaviour can be identified (coding), classified (system of a priori or a posteriori categories) and processed by means of statistical models appropriate to nominal and, possibly, ordinal data.

This has been done in the Belgian projects to analyse interaction between the child and his school and family environment. Being slanted towards explanation, it is justified primarily in the exploratory phase of action research. However, it may be regarded as a "luxury" which is unnecessary for the collection of information significant for all the partners concerned and useful for decision-making in the course of the project.

For this reason, alongside the systematic observation of behaviour in natural surroundings, based on the ethological approach, there appears another approach to observation which is influenced by social phenomenology and historicist humanism. It is accompanied by new trends in evaluation, the most typical being responsive evaluation and illuminative evaluation (Stake 1974, Parlett & Hamilton 1972).

The researcher-consultant then adopts a holistic approach to educational action and its incorporation in its social context.

He relies on observation and relevant judgement intended to objectivize subjectivity. He uses many sources of information (more or less structured direct observation, anecdotal illustration, study of documents, critical incidents, various indicators, conversations, etc. ...).

This produces a case study describing the situation in ordinary everyday language designed to facilitate communication and decision-making.

One of the merits of these new trends in evaluation is that they bring out into the open many questions implicit in action research: What is the importance of subjective values and opinions ? What information needs to be communicated and in what form ? What importance should be attached to particular incidents ? What is the researcher's function ? etc.

We shall come back to the value of this type of evaluation later, directly emphasizing its epistemological limitations. Relativism is a sign of a science's maturity. But there may be a risk of degenerating into spontaneous social pragmatism denying scientific laws in favour of explanations related only to particular circumstances, the only recognized methods being case study and quality journalism.

There is at present some controversy between the "scientist" school who wish to extract variables from reality in order to establish laws, and the "historicists" who prefer to grapple with a tangible process in all its complexity, incapable of being broken down (1). This controversy influences the choice of evaluation methods, which usually prove to complement rather than contradict each other.

What is really at stake in this return to reality and its complexity is the essential requirement of interdisciplinarity in educational research, especially action research. From direct experience of the everyday, researchers will have to define other subjects of research, get away from current controversy about method to find ways of getting back to what is concrete, deduce "laws" and grasp how this scientific practice changes the roles of everyone involved in research. Action research is one of those circular or dialectic situations which make the human sciences so difficult and yet so rich (J. Piaget, 1972).

SUCCESSIVE ADJUSTMENTS

The enormous difficulty of evaluation in action research is due not only to the complexity of the variables involved, but also to the fact that it is dynamic and ever-changing.

None of the Belgian teams has stuck, come what might, to one single scheme. Each of the projects has been conducted in several phases and adjusted at each stage. It is true that the conception of objectives and methods has evolved more quickly than the control instruments have been adjusted, hence the often unsatisfactorily resolved problem of matching objectives, content, method and instruments of evaluation.

It may be said in general that our programmes have gained in internal validity what they have most often lost in external validity, owing to a better analysis of what is actually happening as the programme progresses.

Here are two examples of progressive adjustment. In the first phase, the Ghent team ran a programme parallel to school. A teacher from outside came to work with small groups of children. The programme, which

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(1) For a comparison of nomothetic and historic sciences, see J. Piaget, Epistémologie des sciences humaines, Gallimard 1972, p. 21.

was specific and structured, was aimed at perception-motor co-ordination and enrichment of language and reasoning. The sampling (by matched groups) and experimental design made it possible to check specific effects and transfer effects by means of variance analysis. The results were classical, i.e. positive, especially as regards fields in which training was given (specific criteria) but short-lived.

In the second phase, the approach to the programme was broadened and taken into the classroom with the usual teachers. Weekly formative evaluation enabled adjustments to be made in the light of observation. For summative evaluation purposes, instruments for measuring cognitive development were supplemented by methods used to evaluate certain socio-affective characteristics.

The case of Ghent illustrates the continuous development and progressive integration of an educational experiment in the school through the contribution of replications and interaction between the analytical and the global approach.

The problem is not so much of accumulating variables as of knowing how they form patterns and sequences, which implies a more general theory than the specific hypotheses contained in the tests (Brimer, 1971).

Sometimes strategic changes are imposed by events.

In Liège, for example, we wanted to work from the start in a working-class district school together with the teachers already there. At the end of the third year, one of them wished to drop out. At the same time the school faced an accommodation problem. There was no longer really any room for the researcher, either literally or metaphorically. So we had to fall back on an arrangement we had rejected in the beginning; mounting a programme parallel to the school. We engaged a nursery-school teacher to work with small groups of children in a caravan next to the school.

This combination of circumstances, unfavourable at the outset, enabled us to analyse much more precisely the educational situations, learning contexts, a repertoire of educational strategies matched to the children's particular needs. When new premises became available, our teacher joined the school with a class and we were able to check whether the strategies worked out with small groups could be transferred successfully to a whole class.

Moreover, the results achieved with the "dissident" class tended to resemble those in the experimental class. It is probably no exaggeration to regard this as evidence of the scheme's influence.

The development of an action research project is not always continuous. This example brings out the importance not only of psychological but also of environmental conditions. Allowance must be made for the unexpected, the significance of which only time can tell.

GETTING AWAY FROM THE CONVENTIONAL EXPERIMENTAL MODEL

The successive adjustments to reality which are a feature of action research are also attempts to depart from the conventional experimental model.

Most "active" researchers, probably for reasons of security, tend to make the natural environment fit their favourite pattern: the experimental model with pre-test and post-test, experimental group and control group.

However, this model taken from the exact sciences seems increasingly unsuitable for educational research. It freezes and reduces an essentially moving and complex reality. Its application implies a certain relationship between researchers, guardians of the established order and teachers carrying out the programme. It is virtually impossible to assess Hawthorne and Rosenthal effects and wrong to try to generalize.

These methodological problems which used to be thought peculiar to action research are increasingly mentioned in connection with the evaluation of educational programmes in general.

Owing to the contradictory results of major action programmes, some researchers propose statistical analyses better adapted to educational situations. They employ natural units - school, class, small group - rather than random samples or even the sequential aspect of the programmes (Light, Smith, 1970, 1971). But as brilliant an experimentalist as L. Cronbach (1974) points out that only first degree interaction effects can be observed by multivariate analysis. Rather than insist on misleading generalization, he proposes "interpretations in context" not unlike those advocated by the partisans of responsive and illuminative evaluation.

Attempts at evaluation tend in two main directions, which influence the researcher's function and method.

ACTION AS A CONTROLLED PROCESS: GOAL-ORIENTED EVALUATION

The Belgian action research projects have both structured and controlled elements intended to optimize the learning process. Each child progresses differently and at different speeds towards operationally defined objectives. Educational action is oriented, not predetermined, since it implies successive adjustments between evaluation, decision and action.

Both objectives and evaluation tools are devised and put into effect with the teachers who have means of self-evaluation favouring their independence. Formative evaluation, which is of paramount importance, relies on goal-oriented tests. Standardized tests are not left out, as they can supplement summative evaluation in verifying more general hypotheses.

By means of this analytical approach, the researcher tries to determine didactic hierarchies, to structure intermediate objectives, to identify interaction effects between subjects, objectives and learning factors. He uses both tests and measures, and aims at some generalizability.

The construction of tests in keeping with the educational practice is only one special case of the conventional idea of action research which encourages all social agents to devise a procedure for solving problems at the same time as conceptualizing them. Much remains to be learned from some examples centred not on learning but on the attitudes of and relations within the class (Fox, Lippit, 1967).

If learning is not regarded solely as an end-product but as a dynamic process, the methodological problems of educational research and action research are identical. It is a question of devising the tools required for optimizing the educative process, whereas most of the available instruments are aimed at a standardization of behaviour, and of inventing statistical analyses suited to mastery learning.

This brings out once again the necessary link between action research and fundamental research.

COMPLEMENTARITY OF QUANTITATIVE AND QUALITATIVE DATA

Even structured and quantifiable programmes derive their significance from qualitative data.

Mastery learning experiments in early childhood, for instance, are accompanied by changes in attitudes and behaviour among teachers, children and ... researchers (Detheux et al., 1974). These changes can be objectivized by direct observation in the classroom and in continuous dialogue between teachers and researchers, which throws up further questions (content of teaching, class organization, attitudes to administrative authority, etc...).

With the advent of activity co-operatives, mastery learning is placed in a wider educational context (J. P. Pourtois, 1974). Teaching units are developed both in the school and family environment and by different people: teachers, parents, older children. The effects of this must be grasped in terms not only of the learning process, but of new interpersonal relationships.

However, an outside observer would probably be needed to perceive both the positive and negative side-effects of such experiments. The researcher, the teacher's partner, is often too involved to see the experiment in perspective. This is where team work comes into its own.

Accordingly, in action research, "responsive" evaluation can supplement formative and summative evaluation. "Responsive evaluation will be particularly useful during formative evaluation when the staff needs help in monitoring the programme when no one is sure what problems will arise. It will be particularly useful in

summative evaluation when audiences want an understanding of a programme's activities, its strengths and shortcomings and when the evaluator feels that it is his responsibility to provide a vicarious experience" (Stake, 1974).

The qualitative data collected by means of observation, surveys, etc. enable quantitative data to be validated (Campbell, 1974) and an assessment to be made of differences in relation to intentions, expected and unexpected, desirable or undesirable aspects of the programme.

ACTION RESEARCH AS AN OPEN PROCESS: INTERPRETATIVE EVALUATION

The contribution of direct observation and other means of describing and interpreting action is all the more important because the objectives concern inter-personal relations and the organization of the educational environment.

When it was a matter, for example, of introducing psychology in the crèche (Billen, 1974), participant observation was the method used. The researcher acted as a catalyst and brought to light signs of change (alterations in routine, presence of parents, intensification of inter-personal relations, trade union activity by child-care workers, etc.).

In this type of action research, the researcher can combine the resources of psychosocial work (development group) and of responsive and illuminative evaluation. "As the programme moves in unique and unexpected ways, the evaluation efforts should be adapted to them, drawing from stability and prior experience where possible, stretching to new issues and challenges as needed" (Stake, 1974).

Together with an open approach to action goes a non-restrictive model of evaluation. Numerous primarily qualitative techniques (Campbell, 1974) make it possible to interpret experienced situations, of which they give a picture facilitating understanding, communication and decision-making. The researcher-consultant takes into account not only stated objectives but also all the effects of intervention on the context in which it is set. The mode of evaluation is not fixed in advance but is determined in response to participants' requirements. The researcher has not only to interpret the overall situation but to bring into focus the information most useful for successive decisions. This non-analytical approach is aimed at reflecting the process and context of a particular programme. Evaluation is not only a job for specialists: experts, consultants or observers. Increasingly, spontaneous evaluation by the various participants (teachers, parents, social workers, ... children) is taken into account. Though open to criticism, evaluation procedures based on considerations of justice (Wolf, 1974) are a sign of this wish to hear all parties and to organize a natural kind of evaluation.

Interpretative evaluation also raises theoretical and methodological problems. One concerns the use of judgement in scientific practice and the objectivization of subjective phenomena, the other the "generalizability" of such experience (Campbell, 1974 ; Parlett & Hamilton, 1972). The advocates of responsive evaluation propose assessments that are much more informal than the traditional scientific reports, so as to encourage vicarious experience (Becher, 1974). In doing so, they meet the often expressed wish for maximum explicit description of what goes on during action research. But in confining himself to a narrative report, is the researcher not failing in the responsibility he has taken upon himself to provide clarification ?

Process evaluation - taken here to mean a chronological description of the facts - is not explanatory as such. Why should the researcher deprive himself of the methodological resources afforded by the sciences which he takes as his guides (psycho-sociology, cultural anthropology, history) ? (Piaget, 1972).

Furthermore, is the mere narrative form of the report sufficient to ensure understanding of the work ? Does it not skip a level of analysis which would lend the facts greater significance ? (Enriquez, 1972). "In the case of the new methodology, the principles used to restrict the vast amount of information and the number of channels are often implicit" (Bernstein, 1973). Control is "invisible".

The researcher can no more escape from questioning about causes than about the purpose of his work.

LEVELS OF ANALYSIS OF THE PROGRAMME

For many people, action research appears "costly", fraught with risk and prone to cause disorder. It is essential to realize, however, that like any situation involving change it causes conflict, contradictions and misunderstandings.

Pressures for stability are just as strong as for change. Only "technocratic" or "militant" researchers, for whom reality is merely a projection of their own logic and values, tend to ignore this human dimension of action research.

Generally speaking, a distinction is made between three forms of action (Lapassade, 1971):

- psycho-sociological, aimed at improving relations between individuals;
- organizational, modifying social behaviour in order to achieve optimum adjustment of means to objectives;
- institutional, permitting identification of the economic, political and ideological aspects of the action.

The difficulties encountered in action research are often reduced to technical or inter-personal problems. They are rarely analysed simultaneously at the level of groups, organizations and institutions.

The latter level is the most controversial. In the view of some, institutional analysis is one of the manifestations of the irrationality currently invading science. For others, it affords the possibility of answering the questions which have to be answered by any agent of change (J. Maisonneuve, 1972):

- "Does he do anything but promote his own ideology through his action ?
- Does he try to maintain a certain detachment and act as an analyst in relation to the situations and communities with which he deals ?"

In combining these various levels of analysis, researchers may have to modify the object of their study and to monitor their degree of involvement.

In carrying out direct observation of children in pre-nursery classes, my colleagues' main purpose was to determine the school's effects on the behaviour of such young children for the purpose of effecting immediate improvement in the situation and working out a scheme of activities. The observations resulted in an assessment of activities and of child-child, child-adult and child-object relations in the school. For the researcher-observer, this assessment showed up shortcomings in the teachers.

Hence the keen desire to "change something", reinforced by some teachers' and child-care workers' admission of impotence. It was tempting to denounce the situation and made accusations in public ....

However, generalized observations showed the importance of variables related to the organization of pre-nursery classes (number and quality of activities in relation to the number of children, training of teachers, etc).

A questionnaire was sent out to all the teachers, dealing with problems of pre-nursery classes, their organization and functions and teachers' wishes. The replies were discussed in groups. During these meetings, another set of problems was raised. The teachers spoke of their difficult working conditions, their training, their relations or absence of relations with the administrative authorities, the parents, mothers at work. Accusation of these people gave way to understanding - in the sense of appreciation of all the factors involved. From being judges, the researchers could become partners. For them there arose the dilemma of whether to act or to study the problem of the degree of personal involvement.

The unity of an organized group entails conflicts between different allegiances and points of reference. By identifying the three coexisting factors in the unity of any group (Lapassade, 1971) researchers would be better able to deal with them.

- The factor of positive unity around a common project and allegiance to the same ideology, usually with the emphasis on technical expertise and participation. This is the place to use the term compensatory education without inverted commas...
- The point at which the objectives and interests of sub-groups come to the fore and perhaps come into conflict. This is the moment of refusal or rejection. The researcher falls prey to technicality or spontaneity. He tries to interfere because he thinks he can do better than the teachers or takes to dreaming of a "different" school. This is the point where too much action research seizes up.

- The factor of organization which ignores conflicts or manages them in terms of fixed objectives. The researcher agrees to be just a researcher and partner of the teacher with whom he forges the tools of most use in the joint venture.

Generally speaking, the combination of different levels of analysis enables conflicts to be recognized, controlled involvement to be encouraged and the reinforcement of underlying ideologies avoided.

Although different in their degree of openness and flexibility, attempts to evaluate action research provide in varying degrees the feedback which is essential at two complementary levels: the learning process in the broad sense, and co-operation between the various partners in the research project. These twin functions of regulation and elucidation tend to optimize the action and to contain the conflicts and challenges which are inevitable. From this point of view, evaluation is an integral part of action. It is not only the province of the researcher (evaluator reporting to a decision-maker), but concerns all the people involved in the educative process. The following observation may also be applied to evaluation: "In fact, there is no absolute contrast between problem-solving in everyday life and research: the only real differences lie in the level of awareness, the effort at systematization and the rigour of generalizations" (De Landsheere, 1970). The researcher can provide support for natural observation not only in order to facilitate the operative and co-operative aspects of action but also toreinforce the process of self-assessment and enable a legitimate right of control to be exercised by everyone concerned.

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